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SAUNDERS

Bulletin

LONDON

We recently secured a large, full-width space on the front cover of *The London Lancet.* This increased space will enable us to bring our authors' books more prominently before the medical profession of Great Britain and her colonies.

Notwithstanding the war, the business of our London Offices has more than kept step with its records of pre-bellum years.

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READY SOON

This new book takes up modern orthopedic surgery not only of the child but of the adult as well. Besides including all the surgery of the bones, joints, tendons, muscles, ligaments, and fascia, it contains a great mass of organized information relative to the bone-graft—its advantages, use, and technic, graphically illustrated. The work is much more than a treatise on the use of braces, frames, plaster-of-Paris and other essentially non-operative procedures: It is a full and complete presentation of *operative* orthopedic surgery as well. It covers this latter side more thoroughly than any other work in any language. The sections devoted to *military surgery* are particularly apropos at this time, as seventy-five percent of the surgical conditions resulting from the present world-war represent the very type of cases to which this book devotes considerable space. Doctor Albee gives you, in addition to his previous experience, the invaluable knowledge gained by him during four months' work in the military hospitals of France during the past year, including a simplified method of applying the Carrel-Dakin solution. A large portion of the book is given over to the modern treatment of traumatic conditions—both major and minor. The illustrations are original and numerous.

Octavo of 700 pages, profusely illustrated. By FRED H. ALBEE, M.D., Professor of Orthopedic Surgery at the New York Post-Graduate Medical School.

SAUNDERS, *Publishers*

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WAR'S INFLUENCE ON MEDICINE

PRESIDENTIAL ADDRESS *

CHARLES H. MAYO, M.D.

ROCHESTER, MINN.

AMERICANISM

The medical profession should feel proud of the position it has attained in the affairs of the world. It has been second to none in its progress, and medicine has now become nearly an exact science. The exalted position of medical men throughout the world's war has become accepted and has given them an opportunity to apply wholesale, as it were, the newer methods of prevention and treatment of disease by adopting at once fixed medical standards. The enormous value of this practical application relieves the necessity of a slower advance by discussions with the ignorant and by overcoming obstructionists. Hundreds of our medical men, appreciating the needs of the people as well as the requirements of soldiers, have long since accepted medical service to aid humanity in all of the countries of Europe.

The medical profession was first to mobilize, and has been signally honored by the government in having given to it the first flag to be carried abroad, thus signifying our country's active entrance into the war. No worthier representative of the profession could have been chosen as standard bearer than Dr. George W. Crile, who had done so much to develop the base hospital idea. These accomplishments give us a right to discuss Americanism. As a people we cannot accept the Prussian point of view that war is of divine origin, and that those killed in waging it pass immediately to Walhalla. We are more than ever firmly convinced that war is what Sherman called it, and made of it, Hell. In beginning and conducting war, autocracies, government officers and soldiers each have responsibilities. In all the world's history war has occurred at fairly regular intervals, and the great steps of man's progress have been closely associated with it through advances made by autocratic order and accepted through discipline. The very fact that a people can respond to so great a catastrophe as war shows that they are capable of the progress which will result regardless of the human sacrifice. Russia has started on her freedom along these same lines, to be ultimately united only through either the present war or an internal revolution. Autocracy and imperialism are hanging in the balance, and the scale will turn with education and opportunity for the people. Our own nation has never been in any war of conquest, having fought only for the "rights of life, liberty and the pursuit of happiness for all," and paying for all territory taken. War gave us freedom, our institutions, and the consolidation of our states, it gave to the world the freedom of the seas, and it gave to Cuba the same liberty that is in time to come to the Philippines and other of our possessions. Our war of freedom was instrumental in effecting such changes in the governing methods of our mother country — England — that she has since so endeared herself to her other colonies that they have freely bled themselves white in their loyal support of her. Our original displacement of the Indians must be regarded as being somewhat similar, though much more humane, than Germany's attempt ruthlessly to stamp out what it considers weaker, nonaggressive or decadent people who, from its point of view, are wasting the world's supplies. Germany plans that her defeated opponents are to be restored to usefulness by "Kultur," a proposition the value of which is open to discussion.

In our own country our constitutional form of government is founded on personal liberty. It is stronger for its just recognition of property rights, and ultimately the will of the people prevails. Since the framing of the constitution, thirty-two millions of emigrants have come to our country. Those who came early aided in developing it from the wilderness, and at once became loyal citizens. Those who came late, to obtain opportunity and material benefit and to avoid the restrictions, oppressions and conscriptions of their own countries, are not truly our citizens, becoming so only in the second generation. The state, acting as our monarch, controls the rates and the taxes. It provides for the care of the helpless, deficient and insane. It protects the health and lives of its people, is constantly working to benefit all by such acts as the compensation law, and is now discussing a modification of the compulsory health insurance of Germany and England.

The great industries have in the past unnecessarily destroyed thousands of human lives and turned on the public many more thousands of cripples dependent on public charity. It has been cheaper for these industries to let Europe pay the cost of bringing individuals to maturity and to replace the injured and lost with new human material than to go to the trouble and expense of providing suitable means for protecting the lives and limbs of employees. Today we are face to face with the truth that we must arise and upbuild our own people. The economic law of supply and demand has gradually been brought into force, and the waste of human life must cease. We hear on every hand of projects and efforts for the conservation of human life, a movement which is not the outcome of any philanthropy or sentiment but of neces-

* President's address before the American Medical Association, at the Sixty-Eighth Annual Session, New York, June, 1917.

sity. Men can no longer be replaced with the old time ease, and their individual value to the community has increased accordingly.

Economic necessity, not sentiment, has given almost sovereign power to health departments, both state and municipal. The physical condition of schoolchildren is being looked after under the supervision of physicians and trained nurses, and even food is being furnished that the young may develop well and grow strong to do the world's work. To prevent sickness among those who are well and bring the young to maturity with health and education is the most important business of the state.

The evolution of many large institutions has come about through the development of the by-product. The by-products of human deficiencies, mental, moral and physical, are a clog and a burden to the state. In our great hospitals for the insane we find that much effort is being made by highly organized and expensive methods to reclaim the mentally affected. These institutions have become not the madhouses of the past, but hospitals for the mentally sick. The expense is great, the percentage of cures small, but well worth the effort. University and state hospitals are needed for the care of the poor, for curing blindness, and for restoring cripples and defectives from birth and injury to health and usefulness. Now that the war is producing injuries by the thousands, a new impetus is given this work, that by training in special employment and artificial aids such persons may be as happy as possible and self-supporting, and not mentally affected and a drag on the community. It is through organized effort in the medical profession that so many of these great things of the world's work have been accomplished. Within half a century, many years have actually been added to the average life of man. This has been largely accomplished by preventive medicine as well as by advances in the cure of disease.

The American Medical Association has an advisory committee under Dr. Alexander Lambert investigating the question of compulsory health insurance for the information of the profession. Such laws being meant for the general good of the people, physicians should not obstruct, but should discuss and help in devising methods whereby the needy will receive aid, the middle classes will not be pauperized, and this without detriment to the medical profession. Anything which reduces the income of the physician will limit his training, equipment and efficiency, and in the end will react on the people.

One of the greatest functions of a state is the development and control of its educational system. Compulsory school attendance and child labor laws have been necessities. It will soon be generally recognized that the citizen is best made when a child. Compulsory school attendance through the seventh grade and a general knowledge of the English language are necessary to this citizenship. Other languages than English are special studies. Private schools should be encouraged, but all should be subject to state inspection and control. Private schools conducted by hyphenated Americans should be subject to government inspection to remove them from the protective influence of local and state politics. The lack of unity of our nation is largely due to lax educational laws which allow emigrants to develop community and educational interests in the language of their fatherland and not to live up to our constitution. As a people our prestige in the world has been injured most unfortunately by the petty jealousies and the local interests which have been made general through intrigue and political effort. Especially have we decried to the world the acts of government officials whom we ourselves have placed in power. More good would come to our country through tongue control than birth control. Our best people must come to the fore, and if necessary, by self sacrifice, do their part in the political management of the local, state and general affairs of our country if democracy is to survive. A wise monarch in Europe has remarked that it is surprising how often Americans seem pleased at being mistaken as coming from some other country. Our emigrants from all countries desire opportunity for expansion, thought and individualism. With opportunities, their brain cells create great inventions and ideas. It is most natural that such people should develop in this country of opportunity, and it is just as natural that much of the new thought in the world's progress after the next two generations may come from the Siberian people.

In a review of the world's progress in the last hundred years, the wonderful part our country has played in it is at once manifest. Man's power to control the elements was developed in America. Franklin was the first to draw electricity from the clouds. Morse developed the telegraph, Field laid the first cable, and Tesla, through his American education and opportunity, developed electric control. We still thrill at the story of Fulton's first steamboat, the *Claremont*, on the Hudson river. The Howe sewing machine took sorrow from "the song of the shirt." Alexander Bell developed the telephone, and Edison the phonograph; Holland developed the submarine, while Langley, followed by the Wrights, gave us the airship. The typewriter, the adding machine, and nearly all mechanisms, systems and inventions for conserving time and increasing productiveness have been American in origin. Within scarcely fifty years, modern farm machinery — planters, seeders, mowers, reapers, binders and threshers — has here increased man's ability a dozenfold, while in Europe the sickle, the cradle and the flail are still being used.

I bring up these things here because the great medical profession of this country has not stood as a united body for that which is American in medicine. Many, while abroad, have apologized for medical conditions at home, and for personal advancement have often written of and discussed as remarkable European discoveries that are trivial. Many important discoveries in medicine in America have not been accepted here until they have been appropriated by Teutons and returned to us with the stamp, "Made in Germany." Our country has done much for the advancement of the medical profession through the enactment of just laws requiring standards of education. Through the efforts of the Council on Medical Education, of which Dr. Arthur D. Bevan is chairman, our profession has largely aided in the standardization of medical colleges. Through the work of this board, many of the inefficient medical colleges have been forced to close, to the great ultimate good of medical science and of the people served by their graduates. The added requirements of preliminary education and increased years of medical study were so great, however, that with the elimination of 40 per cent. of the colleges, and the years of study more than doubled, we have little more than one-third as many students of medicine now as in 1900. Fewer doctors, better

trained nurses to take some of their work, better educated people, and preventive medicine to reduce sickness maintain an even balance, however. Now will come a hysterical demand to lower the bars of educational medical requirements under pretext of the necessity of war. It must not be permitted. If ever we need educated men it is now; and they will continue to be needed.

To our credit it may be said that today our graduates in medicine by education and training are equal to those of any country, and better than those of most countries of the world. The cost of conducting medical schools is so great, as compared with the fees received, that they may be conducted only by richly endowed colleges or state universities. It costs the state of Minnesota $4,200 to educate a physician, but its people are well paid for the expense incurred as they receive the best medical care. Minnesota now stands fourth among the states in health service for the people, and was the first to inaugurate state board examinations to regulate the practice of medicine. However, the standard for the practice of medicine is now high in most states, and here I would pay tribute to the excellent work of the National Board of Medical Examiners developed through the efforts of the late Dr. William Rodman while president of this Association. In some states, through local or state influence, many forms of the practice of medicine have been given separate boards of examiners, based wholly on lines of treatment. There should be no examination as to the method of treatment. Ultimately, when, as the result of existing laws, general standards of education are higher, public demand will require that all who practice the healing art shall be tested on educational lines, both general and special, the latter wholly on the knowledge of the facts of anatomy, histology, chemistry, sanitation, preventive medicine and the diagnosis of disease but not on treatment, before permission is given to care for the lives and health of the people.

During past centuries medicine has advanced slowly, but quite as rapidly as other lines of endeavor. The wonderful advance of the world's affairs during the last century, and especially in the latter half of it, has given us a new world in thought and productive activity. In medicine this has been especially true in the development of our knowledge of the bacterial cause of disease and its prevention and treatment. How proud the French are of the wonderful part Pasteur played in the discoveries and investigations that disclosed a new microscopic world of life! We now know that to bacteria is due the essential chemistry of existence, as they maintain life by changing inorganic material into solutions for plant food. All multicellular organisms, both plant and animal, are subject to disease and destruction through the action of the single cell organism. Our progress in the world's work will be to recognize and classify bacteria, to propagate and train them to become man's true slaves, and to control, render harmless or destroy those destructive to life. The French, through Madame Curie, gave to us the knowledge of radium. England is proud of Lister, who elaborated the work of Pasteur into a benefit to surgery, showed that infections are caused by bacteria, and thus developed antiseptic surgery. There also was developed the Crookes tube, the penetrating rays of which were accidentally discovered by Roentgen of Germany, from the fact that photographic plates in the room were affected by them.

We have all benefited by Germany's elaboration of scientific problems; especially by her proof to the world of the benefit of teamwork and organized national discipline over the efforts of the individual. It can be said of many scientific discoveries that they were thought of years ago by men who lived before their time, as it were; yet credit must go to those who overcome resistance, educate the people and compel acceptance. From a medical standpoint we must be proud of our country and our great dead. The work of McDowell of Kentucky, who performed the first ovariotomy in 1817, and the impetus to medicine given by Gross, Rush, Simms, Emmett, Senn, Davis and J. B. Murphy, our former president, and a host of other distinguished dead who added so much to our knowledge of medicine, are known to the world. What a debt we owe to Long for his discovery of ether, which made surgery possible and childbirth easier!

We are proud of our agricultural department and its investigations as to the causes, control and cure by serums of the diseases of animals and the destruction of parasitic hosts. The work of Erwin F. Smith on plant diseases is monumental, especially his discoveries as to the cause of certain plant tumors which show again that our bacteria and insect chemists are the prime offenders through the development of their varying acids, which may be stimulating or destructive to other cell life, causing tumors or decay. We should appreciate and aid the work of these departments.

EDUCATION

Whereas a hundred years ago the educated man could acquire the bulk of all that was known, it is now commonly recognized that the world's knowledge is so extensive that the more general an education a man receives the more hampered he may be, unless he is also highly educated along some particular line. There are specialists in every line of human endeavor, the educator, the professional man, the business man, the farmer and the laborer. Flexner is right in his effort to bring about a change in the prevailing system of education, founded as it was in the monk's period of the world's progress. It is proper to adjust education to man's requirements and necessities of today. Already some of the preparatory schools have started a propaganda against even the trying out of experimental changes in educational forms. The graduating age of 29 in medicine is four years too late, as the most productive and ideal period of thought is thereby limited to too short a time. The graduate's best work must be accomplished in the next fifteen years, when his brain cells are most energetic and receptive. It is well to remember that death overtakes the average physician at the age of 58. The intellectual man and woman marry late or not at all, and the resulting birth rate does not exceed one third of their original number. In order that the physician may be graduated at the age of 25, his vocation should be chosen in the seventh year of school life in order that special lines of study may be begun, and the eighth grade, the work of which is a review, should be eliminated. A revision of the time devoted to a study of the classics is necessary. The work of the last year of high school and preparatory school should not be reviewed in the first year of college, thus saving two years. By proper specializing in a six or seven year combined course of college and medicine, the student should be entitled to two degrees, such as are now given in the University of Minnesota.

Medicine has been divided into many branches and, of necessity, diagnostic team work has developed, with the result that both the rich, who can pay, and the very poor, who cannot pay, secure the best possible service. To secure equally good service for the great bulk of the people, however, some change in diagnostic methods by the establishment of centralized plants, hospitals for diagnosis, or combinations of those engaged in specialties to care for the extraordinary cases is necessary.

WORK OF ARMY MEDICAL OFFICERS

War has always had a great influence on medicine, first developing the priest physician, then the barber surgeon, and later the army medical officer. In war time Paré devised the ligature for arteries, although he was not the first to employ it. Napoleon, who was often at a loss to supply his army with food, made awards, which from an empiric and practical standpoint developed canning and the preservation of food before bacteria were known. The American medical profession will ever be under obligation to our army medical officers for their services to the world in the discoveries of numerous diseases, their causes and prevention. Our army medical officers stand preeminent in science. To Beaumont we are indebted for the first report on digestion, digestive fluids and gastric movement from direct observation of a patient with gastric fistula. To Surgeon-General William Hammond we are indebted for the development of the army medical museum, the second in the world. Surgeon J. S. Billings fostered the second largest and the best medical library in the world. Surgeon-General Sternberg discovered the pneumococcus and founded the army medical school and the government laboratories of bacteriology and hygiene. Under Sternberg's administration Major Walter Reed, with James Carroll, Jesse W. Lazear, and Aristide Agramonte, proved the mosquito to be the agent transmitting yellow fever. Lazear lost his life from the disease during the investigation. To these men belongs the credit for the control of yellow fever throughout the world, although the theory had been advocated by J. D. Nott in 1848 and Carlos Finlay in 1881. Through the knowledge obtained by this board and the sanitary and hygienic investigations of the Army Medical Service, General Gorgas, a former president of this association and now surgeon-general of the army, was able to free Havana of contagious disease. Yellow fever disappeared from Havana for the first time in 150 years. Under the supervision of General Gorgas the Panama Canal zone also was freed from both yellow fever and malaria. The latter was proved to be a mosquito-borne disease by Major Ross of the British army. This sanitary work made possible the building of the canal, and the health conditions in Panama are now better than in our own country. To Robert Maitland O'Reilly, one time surgeon-general of the army, we are indebted for the reserve medical corps developed for the expansion of the medical service during the time of war, and under which service several thousands of us are now preparing to do our bit. Under Surgeon-General George H. Torney was instituted the first compulsory vaccination for the prevention of typhoid. This was made possible by the discoveries of Chantemesse and Widal in France and Sir Almroth Wright of England, though to Major Frederick F. Russell of America is largely due the credit of its development. On the Mexican border Major Russell has vaccinated more than 20,000 United States soldiers at one time and put a stop to typhoid. To understand fully what this means, we must realize that the medical army service is as much a specialty in the care of soldiers as any specialty can become. In almost impossible conditions and surroundings to prevent and care for disease and infections, employ all of the serum and vaccines known, and be fully conversant with all sanitary and hygienic laws requires, indeed, special training. During the Spanish War, 20,000 cases of typhoid occurred among our troops in training camps between May and September, 1898. Of the volunteer soldiers, 90 per cent. developed typhoid within eight weeks of camp life. Investigations by Majors Walter Reed, Victor Vaughan, a former president of this association, and Edward Shakespeare did much to demonstrate the methods by which diseases are transmitted by flies and human carriers, and also by utensils and camp pollution. In our volunteer army in Cuba, 450 soldiers were killed, and 9,853 died of disease. The benefit to our country after the present war in having some thousands of medical officers trained in sanitation, hygiene and the prevention of disease will be incalculable. Through lax examinations of recruits and the natural effects of prolonged life and overcrowding in trenches and underground structures, tuberculosis will become a menace to our soldiers, as it is today in France.

In the American occupation of Porto Rico in 1898, smallpox, which was always present, became epidemic, 3,000 cases occurring in two months. By order of Governor-General Davis and under the direction of Major John Van R. Hoff, the island was absolutely rid of the disease by the vaccination of all the inhabitants, more than 800,000 people. In Porto Rico, Captain Ashford and his board have treated over 300,000 people for hookworm disease, reducing its mortality 90 per cent. A similar work with like results has been carried on in the Southern States through the generosity of Mr. Rockefeller through the work of his foundation, largely aided by the army medical and public health services. Mention should be made also of the work done by army medical men in the study of pellagra. Beriberi has been eliminated from the Philippines by the investigations of the preparation of rice made by Captain Edward Vedder. Surgeon-General Torney advocated the Army Dental Corps and the Army Corps of Nurses. The present war is one of remarkable proportions, and the medical service has assumed an importance such as it never had before. The old army hospital gangrene is a thing of the past. A knowledge of the care of infections, prevention of tetanus, vaccination for smallpox and typhoid, the cause and prevention of typhus, the old camp fever, also cholera, the plague and fevers of all sorts, including the new trench form, is a training requirement of the army medical officer, and results in the restoration to duty of a high percentage of the injured.

The requirements of our profession have been raised from within, and not forced from without. The American College of Surgeons deserves great credit for establishing its high standards for the science of surgery and the honesty of the surgeon. Through immediate necessity, hospitals are rapidly being classified and standardized that they may become more efficient for the people and for the training of nurses and future physicians. As a body, no profession has more power if wisely used. We have at once jumped past the period of discussion with fanatics and cults as to the cause and prevention of disease, a long period in

medical history, for today disease can be checked by order. Our country should secure a medical cabinet officer in the near future.

We must aid in all that will elevate the general standard of, and conserve, the American citizen. Prohibition is a war measure the value of which is beyond discussion. That disease was frequently water-borne is a practical observation that has existed for many centuries. To a large extent among the Orientals the danger of such transmission was overcome by the drinking of tea and coffee purified by boiling. In Europe the same results were obtained in the manufacture of weak wines, brews and liquors, the fermentation and yeast germs of which destroyed the virulent bacteria. Now that we know how and why water was dangerous, the necessity especially of alcoholic drinks has been removed in every community in this great country by an abundance of pure water. No one except the policeman sees more of the results of overindulgence in alcohol, demonstrated by poverty, sickness, immorality and crime, than the physician. Medicine has reached a period when alcohol is rarely employed as a drug, being displaced by better remedies. Alcohol's only place now is in the arts and sciences. National prohibition would be welcomed by the medical profession.

American dentistry has made a place for itself in the world, and America stands at the head of all countries in the care of the teeth. We are all proud of the work of American dentists. We may pay our tribute also to the American nurse, who has distinctly elevated the nursing of the world and care of the sick. Her experience and training make her the best wife and mother and a leader in support of the best in education and discipline in her community.

It is most fortunate that our army medical service is in the hands of three of our ablest men, Surgeons-General Gorgas, Braisted and Blue, and we must laud the work of the general medical council under the able directorship of Dr. Franklin Martin. THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, under the direction of Dr. George H. Simmons, has been an important factor in the education of the American physician.

Medical men, your country needs you now and always. You must remember that the state is permanent and does not exist for the good of the individual, but that the individual exists for the good of the state.

Industrial Accident Mortality in 1916.—On the basis of 9 million white persons insured in the industrial accident department of the Metropolitan Life Insurance Company during 1916, it is found that the accident rate for the working people of the United States increased 5 points per hundred thousand over 1915. The tendency has been toward a decrease in the past few years; the 1916 increase is attributed to activity in industry and speeding up processes incident to war conditions. The death rates per hundred thousand persons exposed during 1916 and 1915, respectively, in the classes of accidents named were: accidents and unspecified violence, 73.5 and 68.9; burns, 8.4 and 8.1; absorption of deleterious gases, 3.0 and 2.5; accidental drowning, 9.5 and 11.9 (the figures for drowning in 1915 include those of the *Eastland* disaster); traumatism by firearms, 1.6 and 1.4; cutting or piercing, 0.2 and 0.1; by fall, 13.7 and 12.4; in mines and quarries, 1.0 and 1.0; by machines, 1.6 and 1.4; by steam railroads, 7.6 and 7.3; by street cars, 2.6 and 2.3; by automobiles, 8.8 and 5.7; by other crushing and other vehicles, 3.4 and 3.5; electricity, 1.0 and 0.7; other accidental and unspecified external causes, 11.2 and 10.7.

TRANSFUSION OF BLOOD BY THE CITRATE METHOD *

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Anticoagulants have been of great value and interest to laboratory workers for many years, but their introduction into clinical medicine is of recent date. Engelmann,[1] in 1911, stated that he had injected 0.3 gm. of herudin intravenously in each of fourteen eclamptic patients without toxic symptoms. Satterlee and Hooker[2] used small amounts of herudin in transfusion with their cannula-pipet method, and observed no ill results. Abel, Rowntree and Turner,[3] working on methods of vividiffusion and plasmaphaeresis, concluded that herudin prepared by their method was nontoxic in quantities sufficient to prevent coagulation of the blood of dogs. Turner, Marshall and Lamson[4] studied a commercial preparation of herudin and found it sufficiently toxic to cause death in dogs when given intravenously in doses of from 25 to 30 mg. per kilogram of body weight. Marshall[5] studied this preparation and concluded that the toxic substance was probably some product of putrefaction. Herudin was used as an anticoagulant in a plasmaphaeresis performed on a uremic patient in this hospital. It was followed by marked collapse from which the patient recovered after prolonged stimulation. It has not been used subsequently as an anticoagulant in human beings, and should not be used before careful biologic standardization of the preparation has proved it innocuous.

Yurewitch and Rosenberg[6] used sodium citrate successfully as an anticoagulant in washing and returning erythrocytes to the circulation of rabbits. Hustin[7] reported the result of a transfusion in a human being in which the blood was kept fluid by means of 0.2 per cent. citrate and mixed with an equal amount of physiologic sodium chlorid solution containing glucose before injection. This method has the disadvantage of a large fluid transfer. Weil,[8] in 1914, stated that he had successfully transfused human beings with as much as 250 c.c. of blood kept fluid by means of sodium citrate (amount not stated). He also observed the remarkable fact that the recipient's blood showed no lengthening of coagulation time after transfusion. Lewisohn[9] described "a new and simplified method of blood transfusion" in which he prevented coagulation by means of 0.2 per cent. of sodium citrate. Weil[10] recommended the use of one part of 10 per cent. sodium citrate solution for nine parts of blood. Garbat,[11] working with W. Meyer, in the treatment of thrombo-angiitis obliterans, reported that the intrave-

* From the Medical Clinic of the Johns Hopkins Hospital.

1. Engelmann: Ztschr. f. Geburtsh. u. Gynäk., 1911, **68**, 640.
2. Satterlee, H. S., and Hooker, R. S.: The Use of Herudin in the Transfusion of Blood, THE JOURNAL A. M. A., June, 1914, p. 1781.
3. Abel, Rowntree and Turner: Jour. Pharmacol. and Exper. Therap., 1914, **5**, 275, 625.
4. Turner, Marshall, and Lamson: Jour. Pharmacol. and Exper. Therap., 1915, **7**, 145.
5. Marshall: Jour. Pharmacol. and Exper. Therap., 1915, **7**, 157.
6. Yurewitch and Rosenberg: Russk. Vrach, 1914, **14**, 637, cited by Abel, Rowntree and Turner (Footnote 3).
7. Hustin: Ann. et bull. Soc. méd et nat., Brussels, 1914, **4**, 104.
8. Weil: Med. Rec., New York, 1915, **87**, 164 (discussion).
9. Lewisohn: Med. Rec., New York, 1915, **87**, 141.
10. Weil, Richard: Sodium Citrate in the Transfusion of Blood, THE JOURNAL A. M. A., Jan. 30, 1915, p. 425.
11. Garbat, A. L.: Intravenous Injections of Sodium Citrate, THE JOURNAL A. M. A., May 13, 1916, p. 1543.

nous injection of 2 gm. of sodium citrate was occasionally followed by fever and chilly sensations. He recommended the use of blood containing 0.25 per cent. citrate in transfusions.

Sodium citrate is only relatively nontoxic,[12] and it is therefore of importance to use the minimum amount that will certainly prevent coagulation of drawn blood. For this purpose, 0.2 gm. per hundred c.c. of blood is not always enough; it is better to follow Garbat's advice and use 0.25 per cent.

In 1915 Ottenberg and Libman[13] reported 212 transfusions done by the older methods, and fully discussed the results and indications. McClure and Dunn[14] collected reports of 150 transfusions performed in this hospital prior to the introduction of the citrate method, and gave a complete account of the historical development of transfusion. In this paper, we shall report all of the citrate transfusions done in the Johns Hopkins Hospital and call attention to what seem to be the most satisfactory methods.

SELECTION OF DONORS

Robust, young adults, free from disease are, in general, the best donors. They should always be carefully questioned concerning previous illnesses, and a Wassermann test should invariably be made on their serum before transfusion. Even this will not exclude the possibility of syphilitic infection, so it is better to look for the clinical evidences of syphilis.[15] Cardiac patients requiring bleeding for decompensation have been used as donors repeatedly without any ill result. An active bacterial endocarditis should always be excluded by blood culture if necessary. All transmissible diseases,[16] and, if possible, all other diseases, having been excluded, agglutination tests should be done.

Landsteiner[17] and Shattuck[18] independently reported the presence of iso-agglutinins in normal human serums. Landsteiner[19] divided human beings into three groups according to the agglutination reactions of their bloods. DeCastello and Sturlii[20] were able to confirm Landsteiner's results by tests on 174 human bloods, with four exceptions. In these the serum contained no iso-agglutinins, while the corpuscles were agglutinated by all the other serums. These four are now known to belong to Group I (Moss), although they were not placed in a separate group by DeCastello and Sturlii. Jansky[21] first proved that human beings fall into four groups according to their agglutination reactions, and Moss[22] was able to confirm his work.[23] So far, no exceptions have been found to these groups, and after establishment they are permanent. Moss was able to demonstrate isohemolysins in about 25 per cent. of normal bloods, but never saw hemolysis occur without previous agglutination.

It has now become a routine procedure to test the serums and corpuscles of donor and recipient for agglutination and hemolysis before each transfusion. Ottenberg and Kaliski,[24] in a study of reactions following transfusion, concluded that agglutination tests when properly done are reliable, and also emphasized the fact that certain reactions will occur which are not dependent on agglutination and hemolysis, although their nature is not fully known.

Repeated transfusions from the same donor to the same recipient have been frequent in the series of cases to be reported, and the reactions in some of these cases will be fully discussed. This procedure has never been shown to lead to the formation of demonstrable iso-agglutinins or isohemolysins, in vitro, when properly controlled tests were certainly negative before transfusion. Ottenberg, Kaliski and Friedman[25] showed that dogs transfused repeatedly with agglutinable cells will apparently develop isohemolysins, de novo, but that this will not occur when the injected cells are not agglutinable. We have not been able to produce isohemolysins or iso-agglutinins in rabbits by repeated transfusions with compatible blood. The subject, in view of discordant results by various observers, needs careful study.

Brem[26] has reported some interesting results following transfusions with incompatible bloods. Four Group II recipients were given blood from Group IV donors; one Group I recipient from Group II donors, and one Group III recipient from a Group II donor. In these no severe reactions occurred. Two Group IV recipients were transfused with Group II blood; one Group II recipient with Group I, and one Group III recipient with Group I. Three of these had violent reactions—one with hemoglobinuria. Unfortunately, later agglutination tests were not reported. These results emphasize the experience of others and explain the paucity of serious or fatal reactions following transfusion done prior to the introduction of agglutination tests. Study of the groups of Moss shows that cells from Group IV can be given to any group without expecting serious reaction.

Severe and occasionally fatal reactions have followed transfusions in which careful tests to demonstrate iso-agglutinins and isohemolysins have not been done. In view of this, it is dangerous and unjustifiable to do transfusion of blood without careful tests.

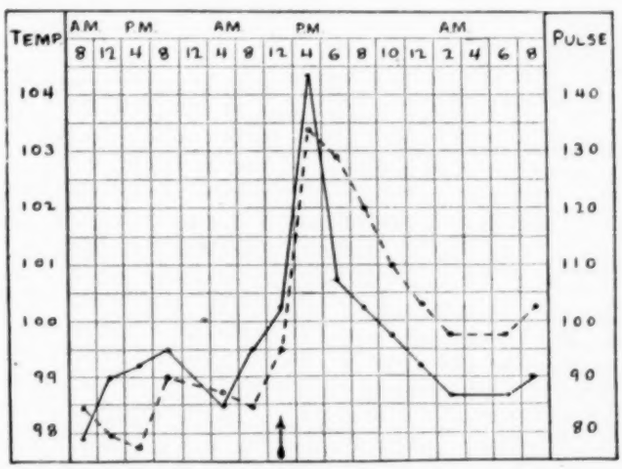
Halban,[27] DeCastello and Sturlii,[20] Moss and Happ[28] showed that groups, as a rule, are not established before the end of the second year of life, although they are occasionally present at birth. Clinical experience has shown that it is safe to transfuse infants under 2 years of age with their mother's blood. But even in these cases, tests should precede transfusions when possible.

12. Lewisohn: Surg., Gynec. and Obst., 1915, **21**, 37.
13. Ottenberg and Libman: Am. Jour. Med. Sc., 1915, **150**, 36.
14. McClure and Dunn: Bull. Johns Hopkins Hosp., 1917, **28**, 99.
15. In this connection the following brief case history may be of interest: A patient with a severe anemia had received several transfusions from his son during a period of two and a half months. Three weeks after the last one the patient returned to the hospital for other transfusions. The son was used as the donor. (A Wassermann test was not made again on the donor's serum, although he was warned of the danger of the transference of syphilis.) Four weeks later the patient had a skin eruption and malaise, and a week later the son also had a skin eruption. The patient was readmitted after several weeks. His Wassermann test was positive, and an ulcer on the palate contained many spirochetes. The son's Wassermann reaction was negative, although he admitted that a chancre was present at the time of the last transfusion. The patient developed a gumma of the larynx from which he died ten weeks after the transfusion, in spite of treatment.
16. Thayer recently informed us of an instance in which the patient developed tertian paroxysms with the malarial parasites in the blood following transfusion from a supposedly healthy sailor.
17. Landsteiner: Centralbl. f. Bakteriol., 1900, **27**, 361.
18. Shattuck: Jour. Path. and Bacteriol., 1900, **6**, 303.
19. Landsteiner: Wien. klin. Wchnschr., 1901, **14**, 1132.
20. DeCastello and Sturlii: München. med. Wchnschr., 1902, **49**, 1090.
21. Jansky: Abst., Jahresb. ü. d. Leistung u. Fortschr. a. d. Geb. d. Neurol. u. Psychiat., 1907, **11**, 1092.
22. Moss: Bull. Johns Hopkins Hosp., 1910, **21**, 63.
23. Throughout this paper the groups established by Moss will be used: Group II and Group III cross agglutinate. Group IV cells are agglutinated by no other serums. Group I cells are agglutinated by all other serums.
24. Ottenberg, Reuben, and Kaliski, D. J.: Accidents in Transfusions, THE JOURNAL A. M. A., Dec. 13, 1913, p. 2138.
25. Ottenberg, Kaliski and Friedman: Jour. Med. Research, 1913, **23**, 141.
26. Brem, W. V.: Blood Transfusion, THE JOURNAL A. M. A., July 15, 1916, p. 190.
27. Halban: Wien. klin. Wchnschr., 1900, **13**, 545.
28. Moss and Happ: Unpublished data.

TECHNIC OF AGGLUTINATION TESTS

Blood is drawn into a Wright tube or small test tube and centrifuged to obtain clear serum. Two drops of blood are allowed to drip from the finger or ear into 5 c.c. of 1.25 per cent. sodium citrate in 0.85 per cent. salt solution to obtain a suspension of corpuscles. A citrate solution is used to prevent clumping of the cells in the cases in which several drops of blood are required to make a satisfactory corpuscular suspension. A cover slip is cleaned from 95 per cent. alcohol, and by means of capillary pipets (one for each serum and each corpuscle suspension) 1 drop of donor's serum and 1 drop of recipient's corpuscles are placed on it and stirred with a small glass rod. This is inverted over a hollow ground slide and sealed with oil. The hanging drop should now be examined under the microscope. It is of the utmost importance to have the drop spread out to an even thickness, with the corpuscles just touching one another. The process should be repeated, donor's corpuscles and recipient's serum being used. Controls may be made with salt solution instead of serum, but are not necessary except in doubtful cases. It is unnecessary to wash the corpuscles used in performing agglutination tests, as the amount of serum present in the emulsion is too small to cause confusion.

The hanging drops should be allowed to incubate at 37 C. for one hour before hemolysis or agglutination can be excluded. Many reactions would be avoided if this rule were strictly followed. Several instances in which agglutination and hemolysis were absent at the end of thirty minutes have shown agglutination at the end of forty-five minutes. Previous to the observance of this rule, reactions following several transfusions were explained when the bloods were subsequently tested, showing no agglutination in thirty minutes but definite incompatibility at the end of forty-five minutes. Agglutination is often present at the end of five to ten minutes, however, occasionally with complete hemolysis at the end of thirty minutes.



Temperature and pulse chart in the case of Mrs. S., who received 450 c.c. of citrated blood at point indicated by arrow. Headache, malaise, urticaria and hemoglobinuria followed. The bloods were compatible by routine tests. The solid line indicates temperature; the broken line, pulse.

TECHNIC OF TRANSFUSION

Blood may be drawn through a needle directly into a graduated flask containing a known amount of citrate solution, but good results are obtained more constantly by adding a citrate solution gradually to the blood as it is drawn. To accomplish this, a graduated bottle of from 500 to 1,000 c.c. capacity has been used. The mouth of the bottle should accommodate a No. 10 or 12 rubber stopper containing three perforations. In the middle hole the stem of a small (50 c.c.) graduated separating funnel is fitted. The two side holes accommodate right angle glass tubes, to one of which is attached a rubber tube in which is interposed a glass "trap" filled with cotton. Through this, suction can be applied if necessary. To the other right angle tube the needle is attached by means of a 6 inch length of pure gum rubber tubing. The needle should be of 10 to 14 (B. & S.) gage and preferably platinum iridium or "nickeloid" to avoid roughening and consequent clot formation.

The bottle with its stopper and tubes should be sterilized by autoclaving or boiling. Before use it should be well rinsed with 0.8 per cent. sodium chlorid solution. The 2.5 per cent. sodium citrate solution is made up with distilled water and sterilized.

Five c.c. of citrate solution are allowed to run into the bottle, after the graduated funnel has been filled. A tourniquet is placed around the donor's upper arm (not tight enough to compress the brachial artery), the cubital fossa is cleaned surgically, and the needle of the apparatus is inserted into a large vein. As a rule the blood runs freely into the bottle, although light suction may be necessary. As the blood flows in, the cock of the funnel is opened wide enough to allow citrate solution to drip in at the rate of 10 c.c. for each 90 c.c. of blood. The bottle should meanwhile be gently agitated.

The blood is transferred directly to a sterile salvarsan apparatus or infusion bottle, previously rinsed with sterile physiologic sodium chlorid solution, and allowed to run into the recipient's median basilic vein,[29] exactly as one gives salvarsan. After 25 c.c. have been introduced, it is better to wait ten minutes to see that no immediate reaction occurs. The remainder is allowed to run in at the rate of 500 c.c. in from twenty to thirty minutes.

In a number of instances in which the recipient belonged to Group III (Moss), washed corpuscles from a Group IV donor have been used. The technic is relatively simple, and the results have been good. The donor's blood is drawn and citrated as in an ordinary transfusion. The blood is then transferred to 100 c.c. centrifuge tubes which have been sterilized and rinsed with sterile physiologic sodium chlorid solution. After these tubes have been covered with sterile caps, they are centrifuged at 2,500 revolutions for fifteen minutes. The plasma is then pipetted off, and 0.8 per cent. sodium chlorid added to bring up to the original volume. The salt solution suspension of corpuscles is given in the same manner as whole citrated blood. The small amount of plasma transferred seems to have no deleterious effect.

Blood may be carried some distance before being used, and when necessary may be kept on ice for many hours. In general it is better to inject the blood within a few hours after withdrawal.

Since the introduction of the citrate method into this hospital thirty-four patients have received a total of 100 transfusions. The procedure has been carried out in a variety of conditions, as is shown in the accompanying table. No attempt will be made to discuss the general indications for transfusion, since this has received full consideration in the excellent article by Ottenberg and Libman.[13]

CONDITIONS IN WHICH TRANSFUSION HAS BEEN PERFORMED

Disease	Number of Patients	Number of Transfusions
Anemias:		
Pernicious	11	49
Secondary	8	17
Burns	2	3
Leukemia:		
Myeloid with hemorrhages	1	7
Lymphatic (chronic)	1	2
Sepsis (Streptococcus viridans)	2	2
Typhoid fever	7	14
Uremia	2	6
Total	34	100

REACTIONS

In order of frequency, the symptoms following transfusion of blood are malaise, slight elevation of

29. In Infants it may be necessary to use the superior longitudinal sinus.

temperature, chilly sensations, actual rigor, urticaria, pruritus, nausea, vomiting, lumbar pain, dyspnea, cyanosis and hemoglobinuria. Any single one or combination of these symptoms occurring within three hours after transfusion has been considered a reaction. Such symptoms have been present in 17 per cent. of the cases here reported. Most of the reactions were trivial, none fatal. In every case the bloods were compatible by the routine tests.

The cause of these reactions is not definitely known. Typical anaphylactic-like reactions of mild grade are not uncommon, and are quickly relieved by a hypodermic injection of epinephrin. Three followed the transfusion of washed cells. One occurred in a patient with typhoid fever, following transfusion from a convalescent typhoid patient. Garbat has observed slight chills and some elevation of temperature following the intravenous injections of 2 gm. of sodium citrate. In none of these cases has more than 1.75 gm. of citrate been used. This quantity would hardly account for the symptoms. The reactions seem to bear no relation to the volume of the transfusion, many having followed small ones.

In this connection, two cases of pernicious anemia are of some interest:

CASE 1.—Mrs. J. B. received 9,000 c.c. of blood by the Lindeman method between Dec. 10, 1915, and Feb. 14, 1916, without any severe reactions. During this admission her spleen was removed. She was readmitted in August, 1916, with extreme anemia. Citrate transfusions from her husband and her brother (both had been donor several times previously) were followed by severe, almost fatal reactions with hemoglobinuria. A Lindeman transfusion, performed with a new donor, was followed by chill, high fever, coma and death. There was marked hemoglobinemia and hemoglobinuria.

CASE 2.—The case of H. A. P. is similar in many respects. Splenectomy and repeated transfusion had been performed during previous admissions. Following a citrate transfusion from a previous donor he had a severe reaction, chill, stupor and hemoglobinuria. A new donor was secured but a similar reaction followed. No more transfusions were attempted.

These two cases have suggested the possibility of the formation after repeated transfusion of antibodies to homologous blood which are not demonstrable in vitro. In both, after the occurrence of severe reactions, tests were done with particular care. Gross and microscopic preparations were made with varying dilutions of donor's and recipient's serums. These were incubated one hour at 37 C., then put on ice for twenty-four hours, and again incubated. There was no agglutination or hemolysis. Similar tests were done in the choosing of subsequent donors with negative results, yet transfusion from these donors gave most severe reactions. Without attempting to explain these, it would seem that transfusion is a self-limited method of treatment in pernicious anemia since, after a certain number of transfusions, homologous blood may cause reactions of increasing severity. We have been unable to produce any similar result experimentally in normal animals.

CONCLUSIONS

1. The citrate method is an almost ideal means of transfusion.

2. Careful preliminary tests for compatibility are essential to success.

3. Washed cells from a donor of Group IV may be given with impunity to a recipient of any other group; and this procedure is preferable to giving whole Group IV blood.

4. Repeated transfusions in pernicious anemia are not without danger.

BILATERAL PNEUMOCOCCAL PAROTITIS

WITH REPORT OF A CASE

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Pneumococcal parotitis, either as a complication of pneumonia or as a focal pneumococcal involvement, is rare. Whether associated with pneumonia or occurring as a primary condition, it is always a serious expression of a grave condition.

In "Modern Medicine,"[1] Osler and McCrae report twenty cases found in the literature, but the date of the compilation could not be obtained. In 1889, Testi[2] obtained the *Diplococcus pneumoniae* of Fränkel in pure culture from the pus in a case of parotitis complicating "acute croupous pneumonia."

Sir John Moore[3] emphasizes its rarity in reporting it to have occurred only six times in nearly 6,000 cases of pneumonia in the Vienna hospitals. He adds further weight by assuring us that von Jürgensen never saw this complication in all his experience.

In 1910, Zesas[4] collected from the literature reports of twenty-seven cases of parotitis as a complication of pneumonia. His own case made the twenty-eighth. Here he probably included the three cases reported by Bargellini[5] in 1908.

In 1915, J. Porter Parkinson,[6] from the Queen's Hospital for Children, reported a case in which the complication supervened suddenly on a resolving lobar pneumonia in a child. The temperature rose suddenly from 99.5 to 104 F. without any fresh chest signs. On the following day the right parotid gland was hard, red and swollen. It was incised two days later, and the pus showed the presence of both pneumococci and staphylococci. Blair[7] of St. Louis, in reporting his work on septic parotitis recently, included one case due to pneumococcus.

REPORT OF CASE

I now report an additional case with its slight variation from those reported:

Early in November, 1916, Mrs. L. F., aged 67, in a fairly debilitated condition, developed what appeared to be a deep seated bronchitis. There was slight hypostatic crepitation in the dependent lung tissue, and bronchial breathing was manifested posteriorly at the lower angle of the left scapula. There was no elevation of temperature above normal. A slight cough with tenacious but not bloody sputum was present. Considerable flatulence with loss of appetite was complained of. The patient felt there would be a lighting up of a chronic quiescent cystitis.

The blood pressure was 105-70, which has only 5 or 10 mm. below her usual pressure. The heart tones were distant, but the rhythm was good. The second pulmonic tone was not pathologically accentuated. After about ten days of the

1. Osler and McCrae: Modern Medicine, **1**, 263.
2. Testi: Encyclopedia Medica, **9**, Edinburgh, William Green.
3. Moore, John: Dublin Jour. Med. Sc., 1909, **128**, 100.
4. Zesas, D. G.: Parotitis with Pneumonia, Fortschr. d. Med., 1910, **27**, No. 34; abstr., THE JOURNAL A. M. A., Jan. 22, 1910, p. 329.
5. Bargellini, E.: Parotitis from Pneumococcus Infection, Policlinico, Rome, 1908, Practical Section No. 22; abstr., THE JOURNAL A. M. A., July 11, 1908, p. 178.
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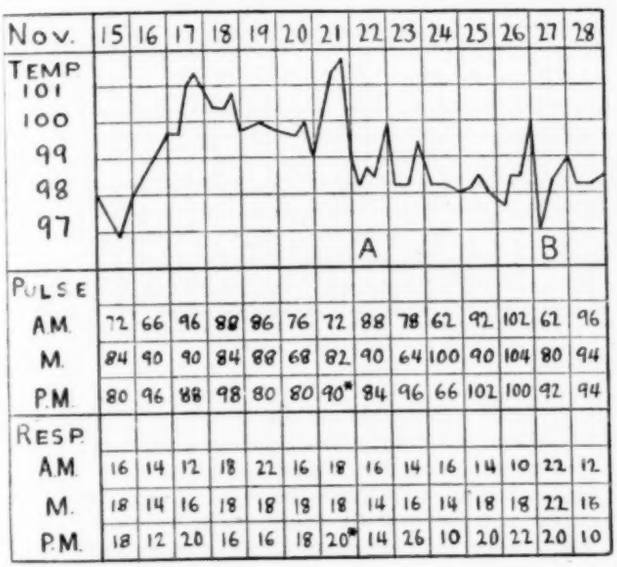
usual management, the lung condition began to improve, and at the same time the patient was disturbed by slight chills followed by hot flushes, and sharp shooting pains in and around the heart. Abruptly on the afternoon of November 15 there was a chill followed by extreme collapse, a subnormal temperature, and a loss of the wrist pulse. The heart was irregular, missed every third or fourth beat, and became so weak in action that five hours of strenuous stimulation were required before anything like security prevailed. For several days the heart labored under the influence of a marked toxemia. There was every sign of sympathetic paresis as expressed by nausea, flatulence, dizziness, cold perspiration and varying degrees of fever. The patient had been complaining of pain in the left parotid region. November 17, this gland was markedly swollen, tender and painful. The opening of the duct was pouting and reddened. By careful manipulation a quantity of greenish-yellow mucopus was expressed. Three days later the right gland became involved in the same manner as the left. From 3 to 10 c.c. of a greenish-yellow pus was expressed from these glands two or three times daily for a period of about two weeks. November 21, the pus was examined by Dr. C. A. Johnson, pathologist, who found pneumococci in pure culture. Blood examination revealed: hemoglobin, 73 per cent. (Dare); red blood cells, 4,000,000; white blood cells, 12,800. The differential count gave polymorphonuclear neutrophils, 77; small mononuclears, 17; large mononuclears, 4; eosinophils, 1; indentate nucleus, 1. The urine and stool analyses were comparatively negative. For several days the patient lay in a markedly toxic condition with rather free drainage of pus from both glands. Several circumstances forbade operative interference. During the night of November 21, five or six days after the acute onset of the glandular involvement, the temperature dropped to normal and below. Perspiration was profuse, and stimulation was needed to prevent collapse. Thereafter the toxic symptoms subsided and reappeared only at intervals as the plugs of mucopus temporarily obstructed the ducts on either side.



Temperature, pulse and respiration chart: *A*, crisis began; *B*, ducts plugged; * 11 p. m.: pulse, 88, respiration, 18.

Convalescence has been slow. After nearly two months the pus has given place to a copious outpouring of a clear, rather thin and salty secretion. There has never been any evidence of glandular concretions, though repeated search has been made for them. This patient has had mumps along with the usual diseases of childhood.

COMMENT

The cases reported to date emphasize the following points: The majority occur in the aged and debilitated. The earlier the complication arises in the course of a pneumonia, the more serious is its import. The lung involvement is not aggravated by the appearance of the parotitis, but the symptoms from the pneumococcemia are markedly increased. In a few cases in which the complication has occurred late, lung resolution has seemingly been hastened.

The disease is usually unilateral. Of the thirty reported cases to date, only eight were bilateral. Resolution of the glands has been slow. As a rule, the pathologic process goes on to suppuration. Drainage has been accomplished through the ducts naturally, or has been produced through incision. Spontaneous resolution has occurred in some cases. The present case is unique in its termination by crisis. It may well be classed with other reported focal pneumococcal infections in which crisis has terminated a pneumococcemia in which there has been no lung involvement.

515 Investment Building.

A WATER-BORNE EPIDEMIC OF TYPHOID FEVER

ISOLATION OF THE TYPHOID BACILLUS FROM THE CONTAMINATED SUPPLY

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AND
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A water-borne epidemic of typhoid fever numbering fifty-two cases with no fatalities recently occurred in a camp at the San Pablo Dam, Contra Costa County, Calif. The interesting factors noted were:

1. A perfectly equipped laboring camp with one decidedly glaring error from an engineering and hygienic standpoint, namely, a dual water supply, neither of the sources of which had been examined bacteriologically.
2. A short incubation period in four cases.
3. The history of water not being drunk, coupled with the interesting information obtained of brushing the teeth, cleansing the mouth and washing the hands.
4. The large number of ambulatory cases, nineteen, in view of the number of known cases, fifty-two.
5. The isolation of the typhoid bacillus from the feces of two patients, the serum of one having continuously yielded a suggestive Widal and the other a negative.
6. The isolation, from the diluted sewage drunk, of an organism completely identified as the typhoid bacillus.

EPIDEMIOLOGY

Ground was broken for the dam, Sept. 11, 1916, and a temporary camp established. The permanent camp, situated half a mile below the dam, in which the typhoid occurred, was opened Oct. 19, 1916. Sanitary conveniences, such as water-flushed toilets, shower baths and washstands were provided, each bunk-house having its own unit.

There is a definite history of the occurrence in the upper temporary camp of a few cases of dysentery, the exact number not being known, all of a mild type

and of an extremely short duration. There was a continuance of these cases when the permanent camp was opened. None of the patients were ill enough to quit work, and their condition did not seem to be of enough consequence to be brought to the attention of the camp physician; therefore no records of these cases are available.

When the investigation was begun there were fifteen patients ill in the Providence Hospital, Oakland, from the permanent camp, the initial and most noticeable symptom being diarrhea, but evidently a dysentery of a more extreme type than those mentioned above. Three more patients were sent from the camp to the hospital the first day of our visit, December 7. By December 11, through blood cultures, feces and Widal examinations, as well as by clinical observations, these cases were diagnosed as typhoid fever.

Several matters of interest relative to the epidemiology were ascertained at the time of our first visit, especially with reference to the culinary force. The chief cook informed us that none of his force, which had been continuously employed for about a month previous to our investigation, had been ill in any way whatever, even after an epidemic was evident. He also informed us, and later investigation proved this to be a fact, that the kitchen and dining room were entirely supplied with water from the upper canyon spring. The kitchen force drank this water and used it even for ordinary cleansing purposes, hot water being always available.

Basing the data on the complete number of the cases in the epidemic, fifty-two, we find that of these patients, four drank water from San Pablo creek direct. Eleven patients used the water from washroom faucets only for brushing their teeth, cleansing their hands, etc. The remaining, thirty-seven, in all, of seven of whom we have no positive records, drank the water at the wash rooms. Eight of the men ill did not eat or live at the camp. This practically eliminated the cookhouse from suspicion. Nineteen could be considered ambulatory cases, the average time each patient was working while ill being eighteen days.

The number of men employed averaged 340 per day. As there were no toilet facilities provided for these men while at work, the reprehensible habit of defecating around the Creek banks and all over the watershed was general. This was particularly true of the ambulatory patients, therefore making them an essential factor by materially and continuously adding to the already polluted water what could be considered specific typhoid excreta.

The scope of our investigation was again extended to the camp, and the connection between the creek water and the wash rooms and offices definitely proved. The pipes which carried the creek water extended entirely over the camp but were cut off completely from the kitchen. The cut-off here was made, November 9, the day the creek water was pumped in. This water, dirty in color and polluted as it evidently was and so proved, with an odor decidedly offensive and supposedly for stock only, was drunk or used in some manner by all the men ill with typhoid fever.

December 12, the superintendent was instructed to begin chlorinating the creek supply. This was only a temporary expedient, pending the development of additional springs about 1 mile distant. These springs would furnish a complete supply of safe water for all purposes. The means adopted for chlorination consisted of stirring daily a 1-pound can of chlorinated lime in the lower 10,000 gallon tank used for the storing of the creek water. This dose completely disinfected the water, even imparting a taste which would make it impossible for the men to take it into their mouths. That this disinfectant was efficient is shown in the results of the bacteriologic examination and by the onset chart (Fig. 1), only two persons coming down afterward, both at a time not inconsistent with the incubation period of typhoid fever, if one would consider the distinct positive history of their drinking the polluted water before chlorination. This completed the many links in the chain of positive evidence of the water being the causative factor.

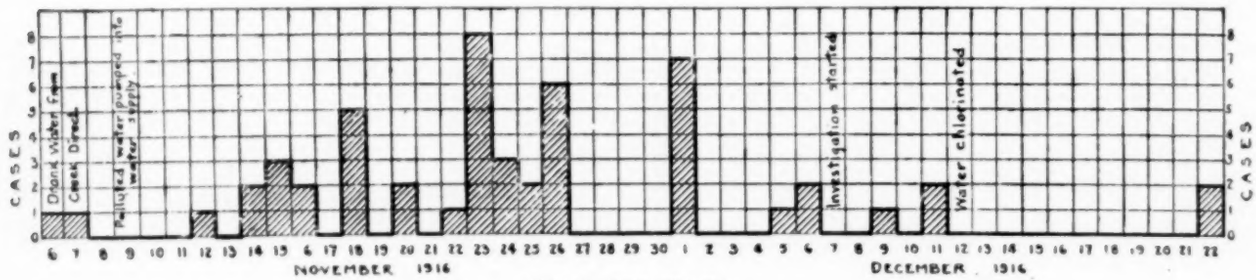


Fig. 1.—Date of onset.

It is of interest to note the rainfall, November 25 and 26, amounting to 0.66 inch. The relation of this rainfall to the sudden rise in the onset of cases, December 1, as shown by the onset chart, is worthy of the consideration of being extremely suggestive.

WATER SUPPLY

This was from several sources. Up to November 9, the water that was used in the camp was piped directly from a spring, situated about 1½ miles up an isolated canyon to the east of the camp, and hauled from two others, one above a ranch near the dam, and one about a mile further up stream. Both latter supplies were brought in water wagons to the men working on the dam and whenever necessary to the camp proper. All water wagons were provided with a spigot and common drinking cup. Field investigations and bacteriologic examination proved that these springs were safe from human pollution. The other supply was the San Pablo Creek. Water in the creek was not noticed in any appreciable quantities until October 15. Following considerable rains, November 4, and owing to shortage of the spring supply, connection was made by pump, November 9, with water in the creek, and this water pumped directly into some of the mains and into a wooden cistern situated on elevated ground for storage purposes. This water from San Pablo Creek was supposedly used only by stock.

Referring to Figure 3, which shows the arrangement of water pipes, it is noted that the dining rooms were supplied exclusively by spring water from the east spring. The fire hydrants were supplied directly from the "lower tank," filled from overflow from the "upper tank" or spring water and water pumped from San Pablo Creek. All the bunkhouse sheds were supplied from the same source. When the creek supply was turned into the system, the valve marked "A" was closed, thereby eliminating this supply from the dining room and kitchen.

BACTERIOLOGIC ANALYSIS OF WATER

Source	Gel. Count	Agar Count	B. Coli Index	Turbidity	Alkalinity	Chlorin	Hardness
Spring Supplies:							
1. Spring east of camp; 12/6/16	6,000	700	5	25	225	65	...
2. Spring up canyon; 12/6/16.	3,000	125	0 in 10 c.c.	5	215	42	...
3. Tap in dining room; 12/7/16	2,000	150	0 in 10 c.c.	10	245	63	...
4. Spring; 12/7/16	800	20	0 in 10 c.c.	0	245	40	...
5. Water wagon at camp; 12/7/16.	1,200	80	0 in 10 c.c.	0	225	36	...
San Pablo Creek Samples:							
6. Opposite camp; 12/12/16	25,000	4,000	10	0	...	..	...
7. Opposite camp; 12/16/16....	9,000	2,000	1	20	250	70	310
8. Opposite camp (chlorinated); 12/16/16	75	70	0 in 10 c.c.	40	250	76	310
9. Above tunnel; 12/16/16	15,000	2,500	100	250	250	76	310
10. Below dam; 12/16/16	5,000	150	1	3	245	70	310

RESULTS OF ANALYSES

Springs.—Samples 1 and 3 are from the east spring supply. This is the spring that supplies the dining room and kitchen. This spring is a box situated in the bottom of a small stream, a tributary of San Pablo Creek, and undoubtedly subject to a variable amount of pollution by cattle whenever the creek has a flood. Numerous cattle graze on the hills near and around the spring, but there appears to be no possible chance of human contamination of this water. Sample 4 is from the spring which was the original supply of the temporary camp. This water was transported in wagons to the workmen on the dam.

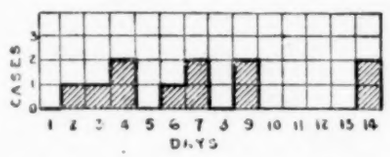


Fig. 2.—Known incubation period of eleven cases.

San Pablo Creek.—Samples 6, 7 and 8 are interesting to contrast. Samples 6 and 7 taken from the identical neighborhood and but four days apart show a marked variability of pollution, not easily explained. It must be remembered that Sample 6 was not tested in smaller dilutions than $\frac{1}{10}$ of a c.c., and from the gas production in the fermentation tubes undoubtedly pollution could have been demonstrated in much smaller amounts. This was the sample from which typhoid bacilli were isolated, the method of identification of the organism being described in full later.

The result of the analysis of Sample 9 is indicative of the effect of the brush gangs on the creek. A comparison of this with Sample 10 again affords one an interesting contrast. Between the two points of the watershed from which these samples were taken there are several pools in succession. In addition, the creek water passes through deposits of rock thrown across the stream. Naturally, there must be some sedimentation and clarification with a corresponding decrease in pollution. Whether or not this explanation applies to the differences demonstrated between Samples 6 and 7 can only be surmised. It is not unreasonable to assume that the improvement in the latter was due to the cessation of the careless committing of nuisances on the watershed through the community publicity of our investigation and the resulting educational propaganda. On the other hand, this variability offers an explanation to the onset of the cases, as a large number may receive their infection on the days of greatest contamination.

Isolation of Typhoid Bacilli from Sample 6.—Following the completion of the epidemiologic data with their important history of the great pollution of the creek water drunk and the active presence of a large number of ambulatory cases with their excreta reaching the creek direct, an attempt was made to isolate typhoid bacilli from the creek water. Though for esthetic reasons called water, it would better have been designated a dilute sewage, with a high turbidity and a decidedly offensive odor.

Direct plating in 1 c.c. amounts was made on litmus lactose agar. Following an incubation of the plates at 37 C. for forty-eight hours, many suspicious colonies were transplanted on Russell's double sugar mediums, three of which gave typical reactions of typhoid. These morphologically, culturally and serologically proved to be the typhoid bacillus. The first generation of the isolated organism agglutinated known typhoid polyvalent serum as high as 1 : 160. Its agglutinating power on the fourth generation was increased to 1 : 1,280, macroscopically.

CLINICAL AND LABORATORY DATA

The average percentage of the men employed who obtained the contaminated water supply and developed typhoid was probably 20.

In two of the patients, the date of onset is given before the polluted water was pumped in. Both of these gave a history of obtaining water from the creek direct, one in particular having preferred this water to any other. The date of onset of the first case was November 6 and the last, December 22.

The largest number reported in any one day occurred November 23, two weeks after the infected water reached the faucets in the wash rooms. The first symptoms noted were diarrhea and extreme headache. In 98 per cent. of the cases in this epidemic, diarrhea was the most pronounced symptom. As a primary symptom this is far in excess to what is usually reported. If one should consider its active presence as an indication of extensive intestinal lesions with all their accumulated dangers, then the absence of any fatalities is the more remarkable. It has not been infrequently noted that the drinking of polluted water would cause diarrhea, but usually such cases, as demonstrated in this epidemic, are only forerunner tidings of a major disease.

An effort was made to obtain, whenever possible, accurate information as to when the infection was received. In only eleven cases were we able to ascertain to any degree of certainty the probable incubation periods. These are given by chart. It is particularly interesting to note the short incubation periods in four of the cases in this epidemic. One patient, an alcoholic, began work on the dam just after a debauch of some days' duration. This man, in camp only two days, had an overwhelming thirst, and definite symptoms of typhoid were noticed on the third day of his stay. From this one case alone, one could easily argue that the incubation period of typhoid fever is variable

to an unknown degree, possibly depending on the dose of the infection received and the resistance of the patient.

There occurred twelve relapses in the cases under observation, thus giving a percentage of 20.7 when based on the total number of cases. This percentage is rather high, and is probably due to the large number of ambulatory cases and dependent on them. There has been only one patient reported as having more than one relapse. Two patients gave a history of previous typhoid, but none gave a history of previous vaccination against typhoid. The age distribution was over a rather large adult area, the youngest being 19 and the oldest 56. All the patients were male.

In one case pericarditis as a cardiac complication was noted. This is a rare complication of typhoid, followed by marked and extended weakness and extreme nervousness.

There are histories of only two possible contact cases, but as both received the infected water it is more likely to consider this as the direct cause. If one considers the large number of ambulatory patients the immediate cause of many of the cases, then the majority of persons ill with typhoid fever in this epidemic are contact cases, practically in the true sense of the word.

Widal tests were made in forty-five of the cases, both microscopically and macroscopically; thirty-three of these were positive. Of the remaining, twelve in all, six were suggestive and six were negative. It is of extraordinary interest to note that from one of the patients from whom we obtained a suggestive Widal,

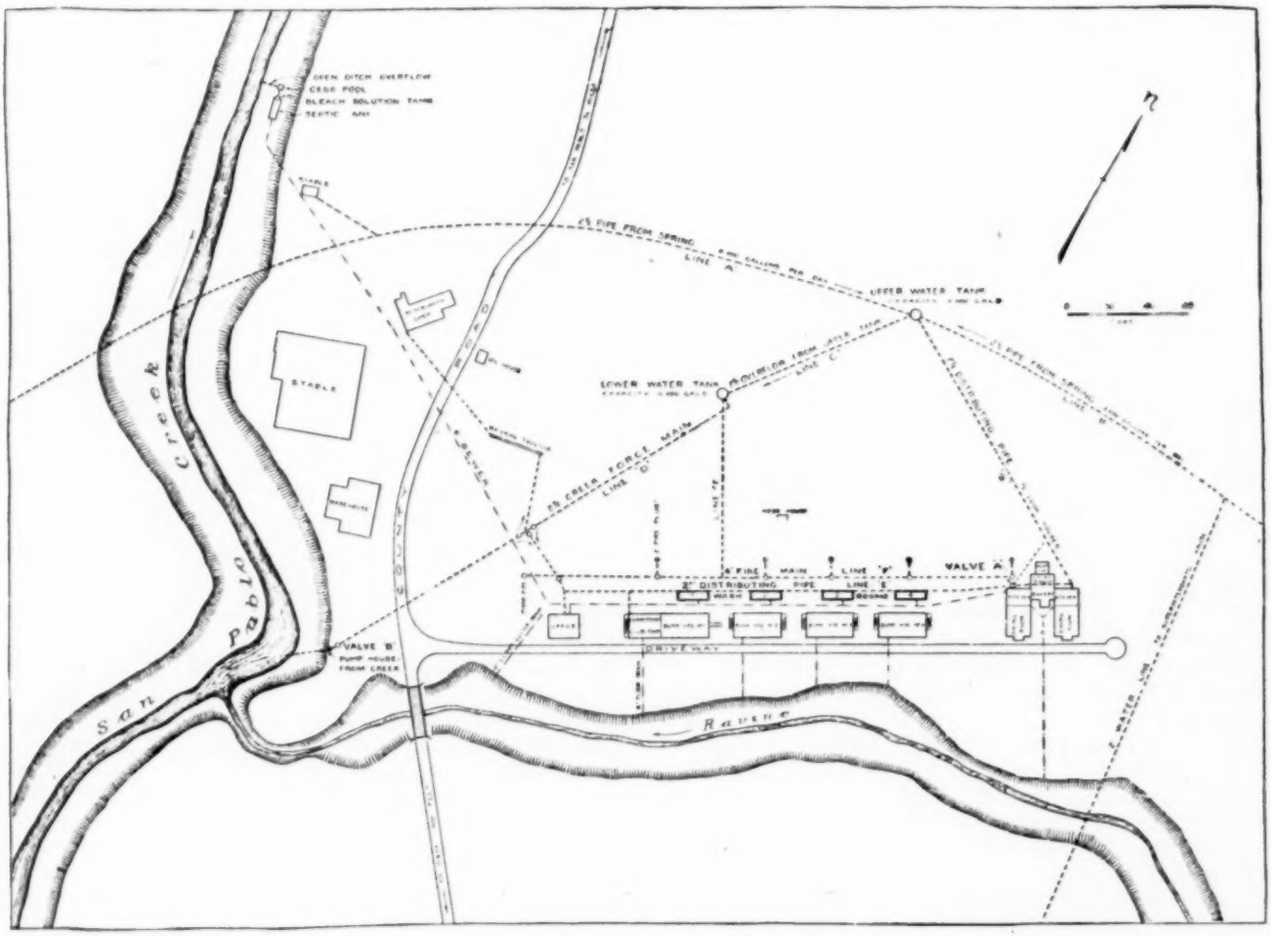


Fig. 3.—Arrangement of water pipes.

particularly in the aged, and was most serious in this instance because of its association with an active bronchopneumonia. Hemorrhage from the bowels occurred in three of the cases in this series. In three, bronchopneumonia complicated the disease. In one case abdominal pain and tenderness was severe. A rather unusual complication was incontinence of urine and feces, which was noted in four cases. Neuritis was general, the usual site being the face and legs. Pain was particularly noticed in many of the cases over and in the neighborhood of the spleen. Of curious interest was one case of "tender toes" as first described by Hanford. This patient complained bitterly of the extreme pain. Convalescence in most of the cases was

we were able to isolate typhoid bacilli from the feces. Again, from the feces of a patient from whom we obtained a negative Widal we were able to isolate typhoid bacilli.

Out of four specimens of urine which were examined, typhoid bacilli were isolated from two. This would suggest that the typhoid bacillus is given off more frequently in the urine than is popularly supposed. Out of twenty-nine specimens of feces examined, eight gave positive results. This would seem to add emphasis to the importance of examining specimens of urine along with those of feces. Blood cultures were obtained from twenty-six patients, ten of which were positive.

From a comparative study of the number of positive blood cultures obtained and the number of positive Widal tests, one cannot help but appreciate the diagnostic value of the Widal test, even though, as shown in this epidemic, we may obtain reactions not consistent with the clinical findings.

[ADDENDUM.—Two claims of persons who contracted typhoid fever in this epidemic were brought before the Industrial Accident Commission of California. Following is a copy of the decision and a later memorandum on these cases.]

BEFORE THE INDUSTRIAL ACCIDENT COMMISSION OF THE STATE OF CALIFORNIA, CLAIM NO. 2482

Clara B. Collins; Applicant, vs. Oakdale Irrigation District and State Compensation Insurance Fund, Defendants.

Contentions made in applicant's petition for rehearing appear to indicate that applicant's counsel could not have understood the reason for the Commission's decision to deny a death benefit. The facts in this case are briefly that A. F. Collins, the husband of the applicant, was employed by the Oakdale Irrigation District to operate a stationary engine which lifted sand from the Stanislaus River to the banks of the river. From October 18 to November 1 the construction camp where he was employed was located at "Two Mile Bar." On November 18 he sustained a slight accident which would probably not, by itself, have disabled him from working for more than the two weeks' waiting period described by the Compensation Act. On November 20 he left his work suffering from typhoid fever and died from typhoid on Dec. 5, 1915.

The question upon which the case turned was whether or not the death from typhoid could be attributed to the employment. Applicant's counsel attempted to show that the typhoid was caused by drinking impure water, there being no pure water available at the construction camp. It is our opinion that the applicant has not sufficiently established the fact that the typhoid was contracted from this cause. The fact that no other workman, in construction camp, had contracted typhoid within the last five years, taken in connection with the further fact that no analysis was made of the water and no evidence was produced to show that the water contained any typhoid germs, is sufficient, in our opinion, to destroy any connecting link between the conditions attending the place of employment and the typhoid. While the applicant's contention is possibly true, this Commission cannot require employers to pay death benefits upon mere conjecture or surmise, however reasonable, where such conjecture does not amount to satisfactory proof.

Typhoid can be contracted in other ways than by drinking impure water. Contaminated food, such as milk, oysters or green vegetables, may be responsible. Flies carry the disease to human beings. The average period of incubation is from eight to fourteen days. This strengthens our contention that there was no connection between the slight accident sustained by Mr. Collins and the development of typhoid.

The decision in this case should not be taken as holding that typhoid fever contracted by drinking polluted water furnished at the place of employment may not be an injury or occupational disease and compensable under the Workmen's Compensation, Insurance and Safety Act. The decision upon this point is reserved until some case arises in which the connection between the employment and the typhoid is more clearly established.

INDUSTRIAL ACCIDENT COMMISSION OF THE STATE OF CALIFORNIA,
A. J. PILLSBURY,
WILL J. FRENCH,
MEYER LISSNER.

H. L. WHITE.

MEMORANDUM

These cases of typhoid fever. In the case of *Collins vs. Oakdale Irrigation District No. 2482*, the question whether typhoid fever can be an industrial injury was left open, the evidence not being sufficient to connect the disease with the employment. In the cases now before us the evidence is sufficient and there could be very few cases where the origin of the disease could be proved more strongly than it is here. In a camp of some 300 men a large number (44 according to Mr. Ayer, 53, according to Dr. Geiger) were taken with the disease. This of itself would be almost enough to prove that the disease (in at least most of the cases) arose from the water or the food in the camp. But in addition, typhoid germs were found in a test made a few days after the disease broke out in the water of San Pablo Creek at the point where the water was taken out of the creek and pumped into a tank, from which it was supplied to the bunk houses for use in the wash rooms of the men. There was also water conducted from a spring to another tank, and from there piped to the kitchen. The evidence shows that this water was not polluted, and the origin of the disease is sufficiently located in the water from the creek.

It was not intended that this creek water should be drunk, the spring water being intended for drinking, but no caution seems to have been given not to drink the creek water; besides, without doubt, the disease can be caused from washing in polluted water, cleaning the teeth with it, etc.

Accepting the fact as established that the typhoid fever arose from the water supplied to the men, the question is whether that disease is compensable. I believe that it is; having arisen from the water that the men had to use, I see no difference between it and a disease that arose from poisonous gases, smokes, etc., that men breathe during their work, or poisonous liquids or other substances that they handle. In this particular instance it was an occupational disease.

The only case that I have found in the books involving typhoid fever is *Vennes vs. New Delle Lumber Company* (a Wisconsin case), referred to on page 229 of Glass on "Workmen's Compensation Law," and given in full on page 273, where the supreme court held that disease to be within the compensation act. And this was a decision against the position taken by the representative of the deceased employee, who was attempting to sue in the courts for damages for negligence, the supreme court holding that it was a compensation case and that the court had no jurisdiction.

Following that case, applicants are entitled to awards, and they are prepared accordingly. REFEREE.

DIABETES MELLITUS

BROADER ASPECTS OF TREATMENT AND RESULTS *

H. P. GREELEY, M.D.
WAUKESHA, WIS.

The dietetic or fasting treatment of diabetes has been so universally successful in quickly ridding patients of their sugar and acidosis that I have come to regard as more important ultimately the subsequent education of the patient in the ways and means of keeping sugar free. Success here largely depends on the educability and the personal equation of the patient and on the ability and enthusiasm of the physician. It should be judged largely by its successes and not by its unavoidable failures.

METHODS OF TREATMENT

Among the different methods of treatment, by far the most important, in view of the number of patients it reaches, is the treatment in office and home by the general practitioner. This method furnishes a closer and more individualized means of treatment than any of the others, and when it is combined with the services of an expert nurse-dietitian, is perhaps the best in that class of patients on whose general health and strength little inroad has been made, and when it is not considered advisable or possible to interrupt the activities of the patient. We see the failures. Patients have often been subjected to long periods of fasting. (I use the term "fasting" advisedly, for I heartily agree with Hodgson that "the starvation treatment," as it has come to be known, is not only an odious but also an incorrect phrasing of a therapeutic fast.) The fasting generally clears the patient of sugar, but because of the poor control exercised in the careful graduation of the diet, sugar returns almost at once, and both patient and physician become disgusted, and the weakened but little benefited unfortunate is nursed along until he is moribund, or sent at once to a specialist. The mushroom growth of the fasting method and its ready adoption by physicians and surgeons has done untold harm. For instance, a prominent surgeon has recently sent us a patient, treated by fasting plus whisky and large quantities of olive oil. Needless to say, this patient was on the verge of coma.

The class method of treatment is admirably adapted to the outdoor departments of general hospitals, in which difficult cases can be first treated indoors, and by cooperation of social service workers successfully transferred to the outdoor departments. Of course this is not applicable to private patients in general hospitals, and the same disadvantage of too little laboratory experience in the preparation and serving of food holds as in the former method. The general hospitals of today furnish the best means of treating and study-

* Read before San Francisco County Medical Society, April 10, 1917.

ing the disease, but furnish the least amount of education to the patient. If a stay in the hospital does not precede the treatment in the outdoor department, the difficulties are greatly increased, as it then provides no means of adequately studying cases, and makes the preliminary treatment of getting the patient sugar free doubly hard. The grouping together in classes introduces a valuable element of friendly competition, economizes the physician's time, and can be developed to a high degree of efficiency.

The private hospital devoted exclusively to diabetes allows of the most perfect control of the patient and his diet. It gives every opportunity for didactic instruction and the person practically lives in a laboratory, so that the knowledge he gains is "set in the sharp mordant of experience." .The disadvantages of the private institution to the patient are the upsetting of his normal activities and the removal from home environment and consequent focusing of attention on himself. This is often a benefit rather than a disadvantage, however, and one which we always try to make a benefit by allowing members of the family to come and be with the patient throughout his treatment. His future compliance with instructions is then strengthened by the certain cooperation of another person at all times. A complete change of environment is the best way of throwing overboard a lot of bad habits and starting out anew. The grouping together of patients with the same sickness gives great courage and strength to the weak and hesitating, and often has been the deciding factor in furnishing them the necessary strength and faith to persevere.

Aside from the strictly scientific guidance of these patients in laboratory and diet kitchen, the ideal treatment begins with a thorough examination into the home environment, the temperament, the habits of work and of relaxation, and the ambitions of each patient. This should be followed by an explanation of the methods employed to make him better, and the necessity of his complete cooperation and enthusiasm. It should then be pointed out that the treatment of this disease offers more hope and better chances of complete relief of all symptoms than any other chronic disease of equal severity. In treating the person, we must take into consideration the want of balance in his work and environment, as we do the lack of balance in his diet when treating his disease.

THE VALUE OF EXERCISE

Modern life, especially modern business, is full of disharmonies. The lack of compensatory bodily activity and the excess of emotional and mental strain, especially when combined with overeating, are potent factors in the causation of diabetes and other degenerative diseases, and must be balanced with as much care and thought as the diet.

Exercise, therefore, now ranks in importance in the treatment of diabetes with regulation of the diet. Exercise directly after meals is often more beneficial than before meals. It stimulates digestion and burns up the accumulated reserve of energy before it reaches the "overflow" stage. All have seen the occurrence of sugar on rising in the morning when it was the only appearance of sugar during the twenty-four hours. Unquestionably this may be due to a too hearty supper and to a too great accumulation of blood sugar during the sleeping hours, when little combustion is taking place. The substitution of a light supper or a vigorous walk after supper will often correct this disturbance.

Not only must the amount and time of exercise be prescribed, but the exact extent and kind of intellectual work as well is a matter of great concern. In young persons, especially those of nervous temperament, it is useless to advise a career. Generally speaking, they are best fitted for subordinate positions of little responsibility or positions in which they can keep their own hours. Much has been proved about the increased efficiency of workmen under an eight hour day. Their labor is generally mechanical. How much more necessary is it, then, that the brain worker should conform to the same standards and avoid the almost certain premature loss of strength and vigor which is an ever increasing sight in our offices.

There is nothing which appeals to me as being quite so foolish as the oft made remark that "I would rather die in the harness than rust out," as if this expressed the only possible alternatives. If rusting out means anything, it means trying to work on with a handicap of one of the degenerative diseases, arteriosclerosis, cardiorenal disease, diabetes or a nervous breakdown. If dying in the harness means anything, it means working at optimum efficiency till one's work is done, and being able to enjoy life while one lives. Nothing is more pitiful than to see one of these professional or business men, whose ambition was to die in the harness, suddenly stripped of his harness and facing enforced inactivity. He is like a high powered automobile without wheels, a boat without a rudder. He has made a success of his business and a failure of his life. It is necessary to consider work tolerance as well as food tolerance. Sundays and holidays are difficult days for the diabetic. The firmly rooted habit of big dinners and less exercise is one which requires emphasis. The habit of Sunday fasts or partial fasts may be substituted.

OTHER FACTORS

Most persons with diabetes are better in summer than in winter. Among the obvious reasons for this is the lack of exercise in winter, which would be partially compensated for by the increased demand for heat production if people were not chronically overclothed and did not live in overheated houses. Added to these are the heartier foods generally eaten in winter and the lack of fresh fruits and vegetables. The greater prevalence of infections in the winter months is also a cause of disaster to the diabetic. Among our cases, infections were the more frequent cause of the return of sugar that could not be eliminated by the patient, and of death among the children. Practically all of our children who died were well up to within a few days of their death (from three to seven days), showing that the diabetic condition was suddenly influenced by an outside agent. All our patients are instructed with great care as to the necessity and means of avoiding infections — the use of cold water on the face and neck of children, the avoidance of too much clothing, especially around the neck, the necessity of not catching "hot" instead of "cold," going to bed if a slight "cold" develops, and taking a partial fast *before* sugar appears. We have had two children go through the measles with only transitory return of sugar.

Some seem to have the idea that whisky and coffee cure diabetes. Several of our old patients (three in the last three weeks) have written that friends of theirs were advised by their physicians to take whisky

and coffee as a cure for diabetes. The craving for food, which is one of the prominent symptoms of the uncontrolled case of diabetes, is a real thing with many persons in whom the habit of gratifying their desires is stronger than the habit of temperance. It is no great step to transfer that craving to whisky or brandy, and so we have come to discard their use almost entirely except in selected cases, especially in view of the fact of the increased liability to infections even in temperate users. Few if any patients require their use. With the increased hope of life of diabetics under modern methods of education and control, our attitude towards the use of saccharin may also have to be modified. Three grains a day for from five to ten years may not be so harmless a procedure as is now believed. The cultivation of the liking for unsweetened food is important, and ought to be begun in the cradle, where habits are easily formed which are difficult to break in later life. A sweet tooth is a habit, not an inheritance, and may become "sweet poison for the tooth of age."

The bread situation still remains the most difficult one to solve. All the most palatable substitutes are too rich in protein. The use of bran in combination furnishes the best substitute today. The almost universal desire some day again to eat wheat bread is what stands between many a diabetic and permanent relief. A hard and fast rule should be laid down on discharge. The patient should give up the idea of bread altogether for a definite period, from six months to a year, and not think of it meanwhile. When the time comes we can take account of stock and make an experiment if advisable. We must also strictly observe the rule that no person's diet should contain more than 80 per cent. of his maximum tolerance of carbohydrates. This gives a safe margin in case of accidents. If a person's tolerance is under 50 gm., he is better off without wheat bread in any amount or form.

Too great value cannot be placed on the actual experience gained by patients who spend from three to four weeks in an institution. Three times a day they go to the table and see the kind of food, the quantity and the method of preparation. They observe the changes that take place in relation to the changes in their urinary examination, of which they are kept informed. They generally learn how to eliminate sugar on its reappearance, and how gradually to increase the diet afterward. They are given food tables containing information in regard to food values, a booklet of cooking instructions, and instruction in testing the urine, in which they also have practical experience. The thorough explanation and demonstration of how to control their own sickness gives a confidence that surpasses any method in which a patient is dependent on a physician.

PITFALLS FOR THE GENERAL PRACTITIONER

What are some of the common pitfalls into which the general practitioner runs? One is the still enormous use of gluten flours, for which the profession certainly bears an equal responsibility with advertising agencies. A large proportion of our patients have used or are using gluten flour. It is almost incredible that any body of professional men, who are rated as above the average in intelligence and to whom knowledge in these matters has been so thoroughly presented for twenty years in the medical press, can still be prescribing such a fraud as the commonly marketed gluten flours containing about 40 per cent. starch. Almost equally incredible is the fact that physicians place no limit on the quantities of food allowed a patient. The patients are almost universally permitted to partake as freely as they wish of all but forbidden foods. The evolution of the treatment of diabetes has shown three distinct stages. These physicians are still in the first stage — simple carbohydrate restriction. The second stage is the restriction of protein, first insisted on by Naunyn. The present stage is the balanced diet with total calories calculated on the basic needs of the patient according to his age, his size and his work, in which no food element, not even fat, is allowed ad libitum.

Physicians have been slow in arriving at this stage in the evolution of treatment. I am convinced that one reason for this is that old fetish, the patient's weight. Many persons have a false idea that what the patients eat makes them fat or thin, though of course it is not what or how much they eat, but what they assimilate. So physicians urge patients to eat to keep up their strength and weight. Loss of weight is looked on as the *bête noire* of treatment. The whole subject of weight needs careful study. When we consider that the majority of people with diabetes are or have been greatly overweight, and that this is an important factor in the causation of diabetes, loss of weight takes on a different aspect. To these persons, loss of weight is nature's crude method of attempting relief. A weakened pancreatic function can metabolize for 150 pounds, when it is entirely inadequate to the task if the person weighs 250 pounds. If 150 pounds represents the average weight, a further loss of weight to 140 or 135 pounds should cause no great concern, since statistics show that those people who are from 10 to 15 per cent. under the average are the healthiest and longest lived; and why not have a diabetic attain this optimum? Because of loss of strength, you say? Does an athlete lose strength when he trains down ten or fifteen pounds? No. It is not loss of weight that produces loss of strength, it is disease and the failure to control it. The permanent loss of strength seen in the controlled case of diabetes is due, not to loss of weight, but to lack of training. Instead of hugging a radiator, patients should exercise to get warm. Strength comes only in using it, not in sitting and waiting for it. No greater harm can be done many patients than that which results from the false idea that they must eat and eat to maintain their weight and strength. Not only is it harmful, but of course fundamentally wrong. Weight is generally weakness. Unless a patient's weight is more than 15 per cent. under the average, no steps need be taken to increase it. Never should rapid gain in weight be sought any more than rapid reduction in obese states.

Another matter that needs classifying in our advice to patients is the question of pregnancy. With improved technic in the management of diabetes and of pregnancy has come greater and greater success in childbirth in diabetic women. Joslin is optimistic, and considers recent success such that "diabetic women will be less likely to avoid pregnancy in future." It seems to me there is another horn to this dilemma, namely, the rôle that heredity plays in diabetes. In our last 550 cases, eighty-eight showed the influence of heredity, one sixth, in contrast to Joslin's statistics of one twentieth. When we consider this, we must conclude that diabetic women should not bear children, nor should diabetic fathers beget them. Marriage

should also be advised against unless there is no probability of offspring. Childbearing and marriage are compatible with "health" and safety in diabetes, but cannot be condoned by eugenists.

In our series of 501 cases, it took an average of 2.84 days to free the patient of sugar. To those who treated the disease before fasting methods were generally employed, this is certainly an improvement. Each patient is treated individually and not subjected to an inviolable routine. Practically every patient receives a preliminary diet consisting largely of protein and carbohydrate, both in small quantities, and largely made up of vegetables with small portions of bread and skim milk. Fasting is then instituted if necessary. Most mild cases clear up quickly without it.

More favorable results are obtained when the disease is of less than a year's standing. Here it took 2.57 days to eliminate sugar. In those who had had the disease over a year, the time was 3.11 days. Children under 12 years of age cleared up in an average of 2.1 days, as compared with 2.7 days in older persons. Previous treatment is generally a handicap to speedy elimination. Many are brought to the verge of coma by their exclusive fat-protein diets given in unlimited quantities. It took 3.5 days to clear these patients, compared with 1.9 days in those who had had no previous treatment. Acidosis was practically limited to the treated patients.

The duration of hospital care has a direct bearing on the success of treatment. The average length of stay was three and a half weeks. The average period of time that patients remained free of sugar after a stay of less than two weeks was four and a half months among the 30 per cent. who reported. When the stay was between three and five weeks, 63 per cent. of the 75 per cent. who reported were still free at the time of their last report, which makes a period of between six and twenty-four months. Patients received in the last six months are not included. Only 12 per cent. of those reporting who were conscientious and cooperative in this group had any but a transitory return of sugar.

The necessity for a more or less prolonged period of care and observation, as seen in these statistics, is in sharp contrast to the dictum of a well known professor of medicine who, after six months of experience with the Allen treatment, allows two days to get the patient sugar free, two days to establish the power of carbohydrate utilization, and two days for education, remarking that "after six days of hospital care such patients are ready to go out." What success would a recent graduate have, who left the school or hospital with this idea of the treatment of diabetes? The present lack of the human touch in medicine is appalling! Teachers with broad human sympathies do more for the practice of medicine by their radiating personalities than a thousand near-scientists and medical dilettantes, whose idea of medicine is a sporting proposition, a hunt for signs and symptoms; if successful they bag their quarry (the diagnosis) and return pleased and satisfied. If their quarry is a *rara avis* they become metaphorical taxidermists and rush it into print.

CLASSIFICATION OF DIABETICS ACCORDING TO INTELLIGENCE

It takes at least three to five weeks and not six days to reform an adult and change his habits of a life time, and educate him in the proper care and readjustment of his life. Even this length of time furnishes inadequate experience for those who belong to Classes 3 and 4 as I have divided them. Class 1 comprises persons of some intellectuality; Class 2, the intelligent, faithful and methodical; Class 3 those of poor grade school education without further ambitions in education, and Class 4 the utterly uneducated and inapt.

In Class 1 there are 145 patients; thirty-eight never reported after leaving; 78 per cent. of those reporting were well at last report in periods varying from two years to six months. The average length of time that these patients have been free from sugar is ten months. There have been eleven deaths in this group. The low percentage which reported does not seem consistent with the intelligence of this group, but this is due in great part to their feeling of independence. At least that is the reason given by those who have written or returned for treatment in the past.

In Class 2 there are eighty-seven patients. All but six reported with a considerable degree of regularity. Of the 93 per cent. of those who have reported, the average period of remaining sugar free figures out to be eight months. A large percentage were still well at their last report. This survey can, of course, give only intermediary results. End-results after two years' observation are impossible. There were six deaths.

In Class 3 there are a total of sixty-four patients. Seventy per cent. of the total reported with some regularity. The average time of remaining free from sugar was three and a half months. There are three known deaths in this group.

In Class 4 there are forty-two patients. Seventy per cent. reported, but only for short periods. The average period of remaining free from sugar is one and a half months. Three deaths have been reported.

These figures speak for themselves. It is not from want of consultation and labor that Class 3 and Class 4 patients do not remain free. They are labored with often more than the intelligent ones, for obvious reasons.

DIABETES IN CHILDREN

The subject of diabetes in children is of ever increasing interest, for it is here that physicians are watching with greatest interest the test of the newer methods. The question of ultimate recovery is still an open one. The chief concern is not whether we can keep children free from sugar but whether we can keep them free from infections. The permanent value of being able to bring up children in isolated cases by having them live unnatural lives in institutions is questionable. Such a child is merely a curiosity, without real virility. He is unnatural and unfit for existence, and will be till we have children's hospitals for diabetics only, with schools and every kind of accessory combined. Then we can perhaps bring up a child instead of a "case of diabetes."

I believe[1] that most children with diabetes are born with a permanently weakened pancreatic function, and that though this function is capable of a certain amount of regeneration, the time will almost certainly come in that child's life when the pancreatic capacity is insufficient. This seldom actually occurs, as infections take the life of the child prematurely. Children always respond so well that we become enthusiastic and are constantly expecting to discover a cured case, only to have our hopes dashed to the

1. Greeley, H. P.: Speculations Regarding the Pancreas and Metabolism in Diabetes, Boston Med. and Surg. Jour., 1916, **175**, 753.

ground by an acute infection. We have one boy, aged 3½ years, still under observation, who has never had a return of sugar since he left, eleven and a half months ago.

In our series, nine deaths occurred at the hospital and thirty-one after the patients had left, a total of forty. Of the nine hospital deaths (2 per cent. of the admissions), death was unavoidable in all but two. The causes were:

Deep phlegmon of the neck and mediastinum.
Miliary tuberculosis in a child, aged 9 years.
Gangrene of both extremities with infection.
Advanced pulmonary tuberculosis.
Pregnancy, coma, a dead fetus.
Acute melancholia following wife's suicide; patient died sugar free on liberal diet; no necropsy was held.
Coma in elderly woman with 45 per cent. loss of weight.
Melancholia, nervous prostration, loss of 70 pounds, coma.
Total loss of pancreatic function, in man, aged 35; he was repeatedly sugar free on fasting, but did not remain so on the slightest feeding; he died with acidosis but no coma; no necropsy was held.

Of the thirty-one deaths outside:

Six patients were children who died in coma but who were free from sugar till within from three to six days of death.
Four had cancer.
Six had chronic tuberculosis.
Three had pneumonia.
Three had gangrene.
One had acute intestinal obstruction.
One had myocarditis (free from sugar).
One had sunstroke (free from sugar).
One had appendicitis.
One had carbuncle.
The cause of death in four is not known.

In 60 per cent. of these deaths the complications were more deadly than the diabetes.

CONCLUSION

We may say that the revolutionary advance in the treatment of diabetes has consisted mainly in the establishment of a new era in which hope replaces despair, healthy activity replaces enforced idleness, well being replaces invalidism and self-reliance and knowledge replace dependence and ignorance.

It is now possible by systematic education to give a diabetic person sufficient knowledge to enable him to live in a state of comparative health and activity closely bordering on the normal. His greatest asset and his greatest handicap is his own mental accouterment. As we are accustomed to say that a man is as old as his arteries, so we might say that a diabetic is as well as he is well informed.

Educational Methods and Dependency.—The community that would neglect completely its water supply, but would equip modern hospitals for the care of its typhoid patients, would show little judgment; but the community that would devote most of its philanthropic interest to the management of the endproducts of dependency—the jails, reformatories, almshouses, foundling asylums—while neglecting the efficiency of its school systems, would be no more intelligent.—C. Macfie Campbell, M.D., *Mental Hygiene*, April, 1917.

WOUNDS OF THE BUTTOCKS IN WAR

GEORGE G. DAVIS, M.D.
Fellow of the American College of Surgeons; Honorary Lieutenant-Colonel, Royal Army Medical Corps, with the British Expeditionary Force in France
CHICAGO

The question of buttock wounds in modern warfare is a subject that is deserving of special attention on account of their frequency, the high mortality, the variety of injuries and complications, and the demand for special and urgent surgical procedures to meet conditions rarely encountered in civil surgery.

These wounds may be inflicted by rifle fire, machine gun bullets, hand grenades, trench mortars, shrapnel, etc., but by far the most frequent etiologic factor is the high explosive shell particles from bombs. Why, one may ask, are buttock wounds frequent? The answer is definite. It is a custom now in the war zone for soldiers to throw themselves prone on the ground when a shell is coming, or when an aeroplane approaches and surprises them in the open. The reason for this is that as the shells strike they burst by contact into a number of pieces, varying from thirty to 300. These pieces scatter in every direction and take an upward and outward course, so that a man in a standing position necessarily runs a greater chance of injury than a man lying on his face. Furthermore, shells breaking in the trenches with the men in a standing position necessarily inflict frequent injuries to the buttocks.

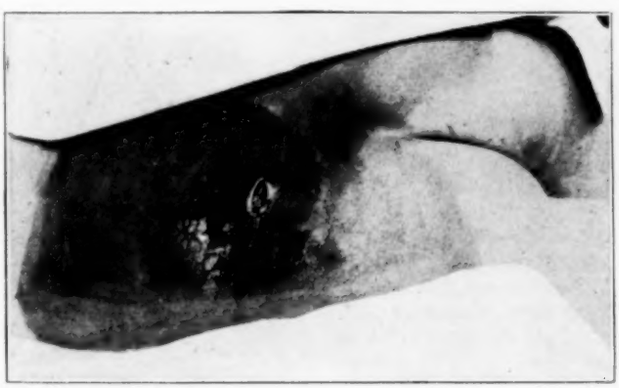


Fig. 1.—Deep, punctured shrapnel wound of the left buttock involving the sacrum. Tetanus developed as a complication and caused death.

The mortality of buttock wounds in a base hospital is high, not alone from the wound itself but also from the complications which follow these injuries. When the same force is applied to the head, neck, abdomen or other vulnerable structures, the damage is such that the wounded soldier is not even brought to the dressing station, but is left dead on the field. In severe buttock wounds, however, no vital structure is involved, and the patient is not immediately killed but is brought to the base hospital as a severely wounded patient.

It has been my experience during a year's service, in which time we handled between 15,000 and 20,000 wounded, that in the severely lacerated wounds of the buttock involving the rectum, the mortality is quite as high as in patients with gunshot wound of the brain reaching a base hospital.

The various injuries and complications of wounds of the buttocks that frequently prove fatal may well be considered under three headings: tetanus infection, gas bacillus infection, and extensive lacerated wounds involving the rectum, or near the rectum, and deeply situated.

TETANUS INFECTION

There are few tetanus cases among the British wounded. This is due to the fact that as soon as a soldier is injured he receives a prophylactic dose of 500 units of antitetanic serum. Out of 15,000 sick

and wounded, we had but ten cases of tetanus. Of these ten patients, eight had not had the prophylactic dose and two had. The two who developed tetanus in spite of the prophylactic dose were both wounded in the buttock. In a third buttock case, in Dr. Speed's service, tetanus developed later, and I am unable to

Fig. 2.—Roentgenogram in the case illustrated in Figure 1, showing shell fragment, which was located on the anterior surface of the sacrum. The entrance wound was through the buttock.

say whether or not this patient had had a prophylactic dose.

The first two patients with buttock injuries who developed tetanus although they had received antitetanic serum died. These patients had punctured wounds in the sacral region, with the missile deeply buried in the region of the anterior surface of the sacrum. The third case of tetanus complicating buttock injuries was in an extensive wound of the buttock, offering a large exposed surface for infection. We find tetanus, therefore, as a complication of buttock wounds in both varieties of wounds, the punctured and the open. The great probability of these patients infecting themselves from their own feces must be considered.

In 1890, Somani found tetanus bacilli in the fresh stools of different animals. Noble found tetanus organisms in eleven out of sixty-one horses examined. Pizzini found that about 5 per cent. of human beings showed tetanus bacilli in the stools. Breton and Petit, from their work, concluded that the toxin of tetanus organisms in the intestinal tract was either destroyed or was incapable of traversing the intestinal mucosa. Matas, in 1909, noted that a large majority of the reported postoperative tetanus cases in the preaseptic and early aseptic eras were connected with operations on the female pelvis, and he calls attention to the tetanus in operations in sterile tissue in which postoperative asepsis cannot be assured on account of fecal discharge contamination, which may cause tetanus. This contamination may result in operations on the genito-urinary organs, or operations in the anorectal and coccygeal regions, and on the inner surfaces of the thighs of both legs. Wilms collected reports of ten cases after hemorrhoidectomy. Horses have developed tetanus after castration. Atkinson, in 1915, reported a case of postoperative tetanus following removal of hemorrhoids, and found six other cases reported by Matas, Shaw, Wood, Souchon, Gerrish and de Nancrede. Jacobson and Wadsworth also reported cases. Speed[1] reviewed the literature of postoperative tetanus, and reported six cases at the County Hospital, Chicago. His cases resulted from operations for abdominal hysterectomy for fibroids, inguinal hernia, cholecystectomy, cholecystenterostomy, bilateral inguinal hernia and left inguinal hernia. From this review of the literature, we see the importance of the consideration of the possibility of tetanus as a result of the contamination of buttock wounds by fecal discharge. This subject will be taken up again when the surgical treatment of these buttock wounds is considered.

GAS BACILLUS INFECTION

The gas bacillus infection of wounds of the buttock is a complication as serious as it is common in war. This infection is introduced at the time the injury is inflicted, and the organisms are carried in with particles of clothing, especially when the injury is by shell fragments, which are irregular in outline and tend to carry ragged portions of clothing with them. The rifle and machine gun missiles are less apt to carry in the clothing, and hence gas bacillus gangrene is less frequently experienced as a complication.

One night our pathologist, Dr. J. S. Archibald of St. Louis, made cultures from the uniforms of thirty soldiers as they were brought from the trenches during the Battle of Loos. Of thirty cultures made, twenty-three showed gas bacillus organisms.

The mortality of gas bacillus wounds of the buttocks is higher than that of the extremities, as in the latter case amputation may be resorted to, but in the buttock wounds less radical procedures must be employed.

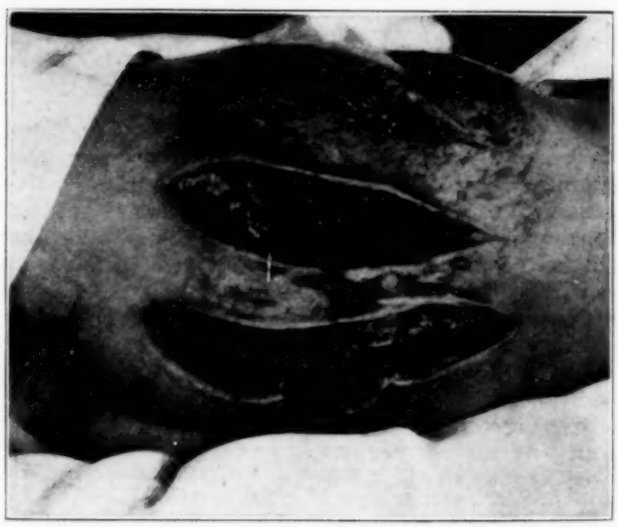


Fig. 3.—Wound of left buttock with gas bacillus infection as a complication. Note multiple longitudinal incisions. The patient recovered.

The gas bacillus infection of the buttocks may be primary or direct, that is, in the wounds of the buttock itself, as described above, or secondary or indirect. In the latter case the infection extends upward between the muscle planes from a gas bacillus infec-

1. Speed, Kellogg: Postoperative Tetanus, Surg., Gynec. and Obst., 1916, 22, 443.

tion of the thigh. Again, inversely, the gas bacillus infection of the buttocks may extend along the muscle planes and cause an infection of the upper thigh.

EXTENSIVE LACERATED WOUNDS

The extensive lacerated wounds of the buttocks involving the rectum, or near the rectum, and deeply situated, are numerically by far the most important group of buttock wounds and deserve special notice. During an offensive movement, when a base hospital is handling 600 wounded a night and a casualty clearing hospital a multiple of that number, and all hospitals must be evacuated daily to keep the line of communication free, many instances of this type of injury are noted, and prove perplexing to the surgeon to handle.

From the time of injury until the patient has passed through the casualty clearing hospital and landed at a base, or sent to a general hospital, twelve, twenty-four, forty-eight, or even seventy-two hours or more have elapsed. During a greater part of this time the wound is bathed in feces, and certainly has been contaminated by the colon bacillus. On account

Fig. 4.—Type of buttock wound near anus which is easily infected by fecal discharges.

of the character of the injury, the patient is a difficult one to transport and care for properly. In dressing the wound, lifting the patient and turning him from side to side, the medical officer requires fully as much assistance as in handling a fractured femur. Moreover, during a rush period, after the medical officer has made his examination, it is only too often impossible for him to know every time the patient has a bowel movement, much less dress him, and hence the patient is turned over to the nurse or relegated to the tender mercies of an orderly. It really is not a suitable case for a woman nurse to care for, and a poorly trained orderly, though willing, is quite incapable of caring for the patient properly. The result is that this large wound becomes an infected area of great dimension, and the patient early succumbs to the absorption of the toxins of the colon bacillus and other pus-forming organisms.

Having lost a number of cases as described above and appreciating the high mortality in this type of wounds, I resorted to an early colostomy as a routine procedure, and there is no doubt that a number of patients were saved by so doing.

TREATMENT

The treatment of wounds of the buttocks may be considered under prophylaxis, diet and surgical procedure. There is no question of the excellent results of the prophylactic dose of 500 units of antitetanic serum employed in all cases of these wounds. That

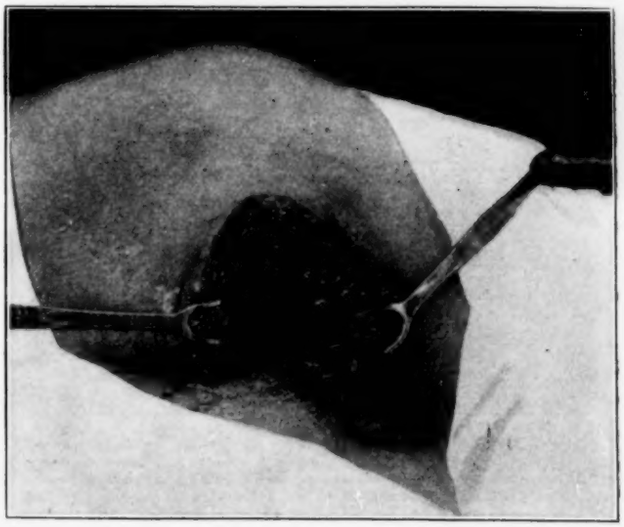


Fig. 5.—Wound of right buttock inflicted by a trench mortar. The base of the bladder and the prostatic urethra were shot away. The rectum was not injured, but the fecal discharges infected the exposed raw surfaces. An inguinal colostomy was made and the patient recovered.

it is not a sufficient dose in all cases, as we have noted in our buttock wounds, is certain. Therefore, considering the possibility of a secondary tetanus infection from the patient's feces, it seems advisable to give a second prophylactic dose of 500 or 1,000 units of antitetanic serum when the patient with a buttock wound is admitted to the base hospital.

Fig. 6.—Same patient as in Figure 5; left inguinal colostomy.

The diet of these patients should be free of food that might be a tetanus organism carrier. The products which might harbor these organisms, as Matas pointed out, are raw vegetables, lettuce, celery, cabbage, watercress, radishes, tomatoes, etc., and raw fruits: strawberries, blackberries, etc. An early catharsis also should be established to eliminate any

products which may have been present before the routine diet is established.

Early surgical procedures in punctured wounds of the buttocks (Fig. 1), with the missile deeply situated, may often be the means of preventing a possible complication of tetanus and saving life. The important

Fig. 7.—Balkan sling, consisting of two uprights, a base bar and a slanting bar. By using this the patient is able to lift himself above the bed, and dressings may be applied or the bedding changed. This device is also of great use in fractures of the femur.

factors here are to remove the missile and infected particles carried in with it, to free the area of pyogenic organisms which use up the oxygen, thereby making it unfavorable for the growth of the anaerobic tetanus bacillus, and lastly to convert the punctured wound to an open one by liberal incisions and gauze-pack drainage. As practically all these wounds are infected and should be treated as such, one should not wait for symptoms, but establish surgical measures as a routine procedure. As a successful lateral Roentgen-ray view of the missile in this region is next to impossible, and as the anteroposterior view locates the missile only in an upward and downward and lateral direction and does not show the depth of it, Roentgen localization of the bullet by one of the various methods is imperative for a skilful removal of the foreign body (Fig. 2).

As a preventive measure against the gas bacillus infection of the buttocks, the foregoing surgical procedure should be adopted. When, however, the gas bacillus infection is really present, more radical steps are necessary. Multiple, long, deep, parallel incisions are made (Fig. 3). These may be united subcutaneously, and gauze drainage connecting the various incisions lifts the skin and fatty tissue from the underlying structures and keeps the edges of the incision apart and renders the field an aerobic rather than an anaerobic medium. Oxygen introduced into the tissues by means of a hollow needle connected to an oxygen tank by a rubber tubing is employed with great success. The Roentgen ray is of considerable assistance in diagnosing the presence of the gas infection and its extent, and will assist the surgeon in determining his surgical procedure.[2]

In the extensively lacerated and deeply situated buttock wounds, involving the rectum and near the rectum (Figs. 4 and 5), an early colostomy should be made. This operation I believe should be done early, preferably at the casualty clearing hospital, which would correspond to the field hospital in the United States Army, as these patients frequently enter the base hospital in a moribund condition. If the wound is near the rectum, but the rectum itself is not involved, a left inguinal colostomy may be made (Fig. 6). If, on the other hand, the rectum is severely injured, it is preferable to make the colostomy higher up—in the transverse colon in the left hypochondrium.

A convenient appliance for assisting in the care of these buttock patients is the so-called Balkan sling (Fig. 7). This was used extensively during the Balkan war, and is particularly valuable in a hospital in which there is a large amount of work and a scarcity of hands to do it. By using this sling, the patient is able to raise himself above the bed and the nurse or surgeon may apply the dressings with little or no assistance.

122 South Michigan Avenue.

2. Davis, G. G.: Roentgen-Ray Diagnosis of Gas and Pus Infections as Complications of Wounds with Deeply Buried Bullets or Shell Fragments, Surg., Gynec. and Obst., 1916, **22**, 635.

Clinical Notes, Suggestions, and New Instruments

REPORT OF A CASE OF DIAPHRAGMATIC HERNIA *

GEORGE F. KOEHLER, M.D., PORTLAND, ORE.

A girl, aged 12 years, had an attack of empyema on the left side two years before I saw her, at which time a large quantity of pus was evacuated. She recovered and was doing

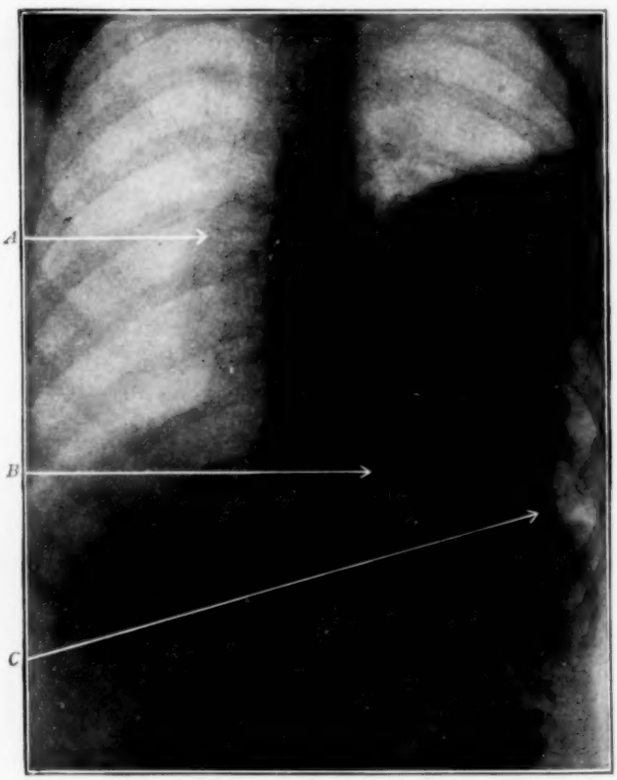


Fig. 1.—Condition before operation. *A*, Heart; *B*, esophageal orifice —cardia; *C*, opening in diaphragm.

well until the early part of February, 1916, when she began to vomit, had epigastric pain with much nausea, and loss of weight. The vomitus was of a coffee ground character, and the stools showed a large amount of occult blood.

* Reported to the Portland City and County Medical Society, Jan. 15, 1917.

I saw her first at this time in consultation with Dr. H. Leonard. The diagnosis of peptic ulcer was made, and the patient put to bed. She improved for a time, but after several weeks all the former symptoms returned, when operation was advised. Dr. Leonard made a posterior gastro-enterostomy after demonstrating peptic ulcer by an incision

Fig. 2.—Condition after operation. *A*, Diaphragm; *B*, point of constriction; *C*, gastro-enterostomy.

throught the stomach wall. She made an uneventful recovery, and seemed to be doing nicely until about three months later, when she suddenly began to vomit and have attacks of sharp pain, referred to the epigastric region, radiating into the left chest. She was brought to my office for Roentgen examination, and we were able to make the diagnosis of diaphragmatic hernia.

The accompanying illustrations show the condition before and after operation. The patient was operated on at the Good Samaritan Hospital by Drs. Leonard and Swensson. The stomach (Fig. 1) was almost entirely within the thorax, and was twisted on itself, the pylorus being uppermost and behind. The omentum was pushed in advance of the stomach and adherent to the pericardium. In order to expose the stomach sufficiently, it was necessary to cut through several of the costal cartilages. The stomach and greater part of the omentum were pulled down and replaced within the abdominal cavity. The diaphragm was sutured, and the patient made an excellent recovery, and six weeks after operation had gained 21 pounds in weight.

Stevens Building.

Ration of the United States Soldier.—The daily ration of the soldier in the United States Army consists of bread, 18 ounces; butter, ½ ounce, or jam, 1.28 ounces; potatoes, 20 ounces; bacon, 12 ounces; beans, 24 ounces; lard, 0.64 ounce; salt, 0.64, pepper, 0.04, and vinegar, 0.16 gill; coffee, 1.12 ounces; sugar, 3.2 ounces; evaporated milk, 5 ounces. This ration contains 4,199 calories, and is greatest of any of the armies of the world except Russia, in which the ration is said to contain 4,929 calories. The calories in the French ration are given as 3,340, the British 3,292 and the German 3,147.

A NEW AND DELICATE METHOD FOR THE DETECTION OF MERCURY

JOSEPH A. ELLIOTT, A.B., M.D., ANN ARBOR, MICH.
Instructor in Dermatology and Syphilology, University of Michigan Medical School

A recent paper on the mode of absorption of mercury in the inunction treatment of syphilis by Dr. Wile and myself[1] was the stimulus in working out a new method for the detection of small amounts of mercury in the various body fluids and secretions.

In beginning this work, I found after considerable experimentation that the ordinary methods that are employed today were either not sensitive enough to detect small quantities of mercury, or that the more sensitive ones were quite complicated and open to various errors in technic. The work was first begun by the adoption of the original Reinsch method, namely, the deposition of mercury on copper wire in an acidulated solution, drying the wire and driving the mercury by heat on gold leaf, as advocated by Vogel and Lee.[2] This method proved satisfactory when a fairly large quantity of mercury was present. It is sensitive, however, to only one-fortieth mg. of mercury in each 50 c.c. of the solution to be tested.

In order to concentrate a known quantity of mercury in solution, methods of heat concentration were tried, as advocated by most methods now in use. In this process, however, it was found that a large proportion of the mercury was lost by volatilization. It was then decided to convert the mercurial salt, presumably a chlorid, in body fluids and secretions, into a less volatile one by the addition of potassium hydroxid, thus converting it into an oxid. By this method we found that the solution could be concentrated by heat with less loss than in an acidulated solution, the loss, however, being sufficient to render the method impracticable.

In practically all of the concentration methods described, the authors used some oxidizing agent, usually potassium chlorate, along with hydrochloric acid to break up the protein material. It has been taken for granted in such cases that the heat plus the acid is not sufficient to dissociate the mercury from the protein material that is normally present. In dealing with urine, we found that the addition of a chlorate was not only unnecessary, but also detrimental, since all of the free chlorin must be driven off, as its presence prevents the mercury from being deposited on the copper. The use, then, of an oxidizing agent was found to be impracticable because a large proportion of mercury was volatilized by the heat necessary to drive off the free chlorin.

After the foregoing experiments, we were convinced that the low point at which mercury is volatilized rendered any form of heat concentration inapplicable, so we again resorted to the so-called cold method. At this time Prof. Hobart H. Willard of the department of chemistry, in whose laboratory most of the work was done, suggested that copper dust be substituted in place of the copper wire, as giving a much greater surface area. Such copper dust is easily obtainable from any chemical house or paint manufacturer, as it is used in making bronze paint. This led to the following method, which I have found more delicate than any one heretofore described:

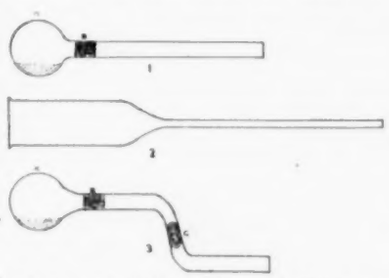


Fig. 1.—Individual pieces of apparatus: 1: *A*, copper dust and magnesite; *B*, washed asbestos; 2: funnel; 3: *A*, copper dust and magnesite; *B*, washed asbestos; *C*, gold leaf.

Five hundred c.c. of the fluid to be examined is acidulated with from 10 to 20 c.c. of concentrated hydrochloric acid. This

1. Wile, U. J., and Elliott, J. A.: Mode of Absorption of Mercury in the Inunction Treatment of Syphilis, THE JOURNAL A. M. A., April 7, 1917, p. 1024.
2. Vogel, K. M., and Lee, O. I.: Detection of Mercury in the Excretions, THE JOURNAL A. M. A., Feb. 14, 1914, p. 532.

is placed in a large bottle and about 1 or 2 gm. of copper dust is added. The bottle is tightly corked and thoroughly shaken for several minutes and allowed to stand until the copper has settled. This is best done by allowing the mixture to stand over night. The larger portion of the overlying fluid is then decanted off, the remainder being thoroughly shaken and filtered, care being taken that all of the copper is washed out of the bottle. The residue is washed first with alcohol, and then with ether, following which the filter is spread out and air dried. After the copper has thoroughly dried, it is placed in a small bulb which is made from a 4 to 6 mm. glass

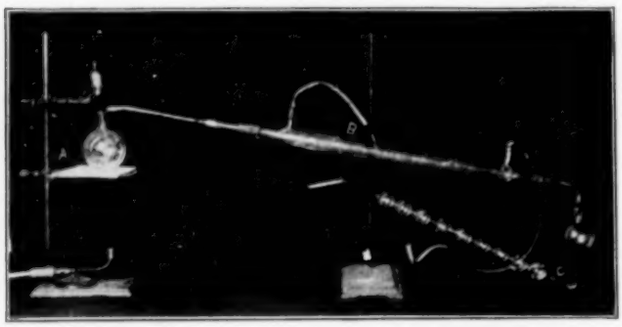


Fig. 2.—Apparatus: *A*, flask; *B*, water condenser; *C*, "ten bulb" tube.

tube (Fig. 1). A small funnel (Fig. 1, 2) made by drawing out a test tube to the desired size should be used in placing the copper in the bulb, thus keeping the walls of the tube free from copper. To the copper dust is now added one or two small pieces of magnesite, which on being heated gives off carbon dioxid gas, thus forcing the mercury along the tube. A small bit of washed asbestos is inserted into the tube just above the bulb so as to prevent the copper dust from coming in contact with the gold while the bulb is being heated. The tube is now constricted just above the asbestos, usually about an inch from the bulb (Fig. 1, 3), and a small piece of dental gold leaf is loosely inserted into the constricted portion of the tube. If the gold leaf is allowed to become hot, the amalgam readily disappears; considerable care, therefore, should be taken when minute quantities of mercury are being tested for, to keep the gold perfectly cool. For this purpose it is well to wind a wet piece of filter paper around the tube at the point of constriction.

The bulb is then gently and uniformly heated so as to avoid a blow-out. It is gradually brought to a red heat, at which time all traces of mercury have been volatilized and deposited on the bit of gold leaf as an amalgam. This amalgam is very evident to the naked eye when the quantity of mercury is more than one-twelve-thousandth mg. Beyond this point it is advisable to use a hand lens to detect the small pin-point amalgamations which are not visible to the unaided eye.

In dealing with fluids which contain large amounts of protein material, such as blood, it is necessary to dissociate the mercury and protein before the test can be made. For this purpose the blood is placed in a distilling flask to which is added an equal amount of concentrated sulphuric acid. The flask is attached to a water condenser and this is connected with a "ten-bulb tube" containing a small amount of distilled water, in which the distillate is collected (Fig. 4). The flask is gradually heated until sulphuric fumes are given off, at which time all of the mercury has been volatilized and is collected in the bulb tube. The condenser is carefully washed with distilled water in order to remove any particles of mercury which may have been deposited in the tube. Powdered copper is then added to the distillate, and the procedure from here on is as described above.

With this method I have been able to detect one-fifteen-thousandth mg., or in other words, approximately one millionth grain of mercury dissolved in 500 c.c. of distilled water. Mercuric chlorid was used in determining the delicacy of the test, and in each instance the test was carefully controlled. By the courtesy of Dean Victor C. Vaughan of the medical school and Prof. Hobart H. Willard of the department of chemistry of the University of Michigan, the accuracy of the test has been checked up in their respective laboratories.

The value of any test lies in its delicacy and simplicity. In the first place, we have been unable to find a test thus far described by which mercury can be detected in a smaller quantity than one ten-thousandth mg., and for the most part the tests ordinarily employed are sensitive only to one-fortieth to one-five-thousandth mg. Thus it is evident that our test is far superior to any other in delicacy. In addition, the test herein described has an added advantage over other delicate tests in being macroscopic.

In the second place, most of the delicate tests which have been heretofore employed require extensive laboratory facilities or expert chemical knowledge and experience. Among such tests may be mentioned the electrolytic method of Smithson,[3] which is not as sensitive as ours and has the added disadvantage of requiring elaborate apparatus; also the method of Raaschou,[4] in which the mercury is precipitated by hydrogen sulphid together with copper. The two sulphids are then volatilized with lime and lead chromate, and the mercury is collected in capillary tubes as metallic globules. It is evident that this test requires expert knowledge of chemistry.

Perhaps the most commonly used method is the one advocated by Wormley.[5] This test depends on the deposition of the mercury on copper foil in an acidulated solution. The mercury is then volatilized by heat and collected in a capillary tube, in which it is seen microscopically as small globules. In the first place, the globules are not easily recognized by the untrained chemist, and small particles of dirt may be easily mistaken for mercury. In the second place, the copper foil does not offer the large surface area which is presented by the copper dust, and therefore does not extract all of the mercury from the solution. We have been able to prove this by obtaining a positive test for mercury by our method in a solution from which no more mercury could be removed by the copper foil method as described by Wormley.

Our test is delicate and relatively simple. The method employed, when the solutions to be tested are relatively free from protein material, can be carried out by any one who is familiar with ordinary laboratory technic, and the materials necessary may be easily obtained.

A DEVICE FOR THE CONTROL OF HEMORRHAGE FOLLOWING SUPRAPUBIC PROSTATECTOMY

H. G. HAMER, M.D., INDIANAPOLIS

Of the many methods suggested to control hemorrhage following suprapubic prostatectomy, such as gauze packing and fat implantation, the use of the inflated rubber bag of Francis R. Hagner of Washington, D. C., has been found most satisfactory. After the enucleation of the prostate is completed, a curved staff is inserted through the urethra into the bladder and its tip made to protrude through the suprapubic opening. Over the protruding end of the sound or staff the rubber tube which is attached to the bag is pushed. The sound is then withdrawn, and with it the tube which brings the rubber bag into the bladder. The bag is distended with air or water and then drawn down into and against the vesical orifice, thus compressing the cavity from

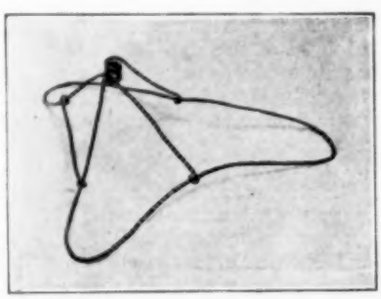


Fig. 1.—Wire anchor for inflated bag; length, 7½ inches; width, 7 inches; height, 3½ inches.

3. Smithson, quoted by Lannoy and Leroux: Compt. rend. Soc. de biol., 1902, p. 1483.
4. Raaschou: Ztschr. f. analyt. Chem., 1910, **49**, 172.
5. Wormley: Toxicology, Ed. 2, Philadelphia, J. B. Lippincott Company, 1885.

which the prostatic tissue was removed. Hemorrhage can be controlled only if this inflated bag is held securely in position.

One of the difficulties encountered has been fixation of the bag in position. Usually this has been done by clamping the tube where it emerged from the penis, or the outer end of the tube was drawn down on the thigh and fastened by means of adhesive straps. Both of these methods are insecure, and if much tension is made on the tube following the former method, a great deal of soreness of the urethra follows, because of constant pressure on the meatus. I am indebted to Dr. Carl Lewis Wheeler of Lexington, Ky., for the suggestion of the need of some mechanical device which would maintain direct pressure over the area of operation after prostatectomy, and for his description of the device of Dr. Townsend of Rutland, Vt. He and I agreed to try to develop some method of exerting pressure for control of hemorrhage. The device presented is the result of the efforts which I have made in that direction, and its practical application has demonstrated its value.

In October, 1916, I devised the wire anchor here presented for the purpose of accurately fixing the pressure bag after the latter has been properly placed and dilated with air. Immediately after the operation, the Hagner bag is drawn through the bladder in the usual manner. The tube from the bag is brought through the hole in the summit of the wire anchor. The bag is then distended by injecting air from a large syringe. Tension is made on the tube, bringing the bag down into the neck of the bladder, with as much pressure as desired, and held in this position by the little screw clamp just outside the hole in the summit of the wire anchor. The anchor is made of soft copper wire of sufficient size to have some rigidity and sufficient strength to hold any tension that might be made on it for this purpose. The flexibility of the wire anchor allows it to be molded to fit the individual patient. It is not in the way of the dressings which may need to be changed before the removal of the Hagner bag, which is usually allowed to remain from twenty-four to forty-eight hours in order that any recurrent hemorrhage may be immediately controlled. The apparatus was described by Dr. W. N. Wishard at the Evansville meeting of the Ohio Valley Medical Association last November.

Fig. 2.—Wire anchor in position before application of outer dressings.

A CASE OF BROMODERMA, OR BROMO-IODODERMA

JOHN E. LANE, M.D., NEW HAVEN, CONN.

Bromid and iodid eruptions are among the most frequently seen drug eruptions. The case reported herewith belongs to the rarer though perfectly well recognized type of bromid eruption. It is unusual on account of its severity, and the fact that part of the development of the lesions was probably due to the simultaneous use of iodids for a short time previous to its appearance. As bromid and iodid eruptions of this type resemble each other, it is impossible to define the part played by each drug in this case, and so it would seem best to classify the eruption as a bromo-iododerma tuberosum fungoides.

S. L., a girl, aged 5 months, of Polish parents, was referred to me, March 18, 1917, by Drs. D. M. Lewis and C. S. de Forest. The child had had convulsions since birth, frequently as many as twenty in a day. When about a month old, mercurial treatment had been given for a few weeks. No definite information in regard to the treatment given from this time up to three weeks before my visit could be obtained.

For three weeks previous to the time at which I saw the child, she had been given 8 grains of potassium bromid daily, and for a week or ten days also 4 grains of potassium iodid. Both of these drugs had been stopped once or twice when

Fig. 1.—Appearance of eruption when patient was first seen.

there were not more than eight convulsions in twenty-four hours. The present eruption had developed very rapidly, had been present about a week, and at its beginning had been diagnosed as chickenpox.

The child was well developed and well nourished. The appearance of the eruption is shown in Figure 1. On the face there were about twenty vegetating, somewhat condylomatous growths, circular or polycylic in outline. The larger ones were evidently formed by smaller ones having grown together as they extended. They varied from 0.5 to more than 6 cm. in diameter. The largest ones were elevated about 2 cm. above the surface of the skin. Their color varied from nearly that of arterial to that of venous blood. During convulsions the larger growths frequently bled. On the buttocks was a discrete, apparently vesicular eruption of the more usual type of bromid eruption. There was little fluid in the vesicles at this time, as vegetating growths had begun to appear under the unbroken epidermis.

Fig. 2.—Appearance of eruption about one week later.

The child was immediately referred to Dr. J. I. Linde, who admitted her to his service in the New Haven Hospital. For about ten days the growths increased somewhat in size, after which they gradually began to grow smaller. The second illustration, taken about a week after the child was admitted to the hospital, shows the elevation of the growths and also a vesicular eruption of two days' standing which, if seen by itself, might easily have been mistaken for chickenpox.

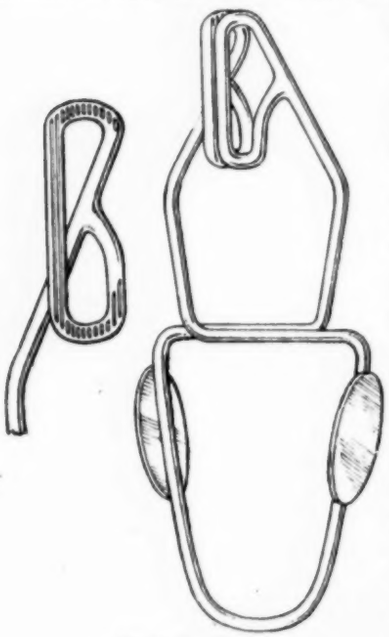
59 College Street.

A NEW URETHRAL CLAMP

H. W. E. WALTHER, M.D., NEW ORLEANS

It is frequently found desirable to retain medicated fluids or jellies in the anterior urethra of the male over a prolonged interval. As it is rather tiresome for either the patient or the medical attendant to employ digital compression to the meatus urinarius for the required length of time, I have devised a simple urethral clamp which answers admirably the purpose for which it is designed. As it is believed to possess some advantages over similar instruments previously recommended, a description is given herewith.

The idea of using a clamp for this purpose is not a new one. Any number have been on the market for years and have been extensively used by urologists. The main objection to those heretofore recommended, with probably one exception, is that they are so constructed as to require clamping the penis behind the corona glandis in order to prevent the instrument's slipping. This sort of instrument fails to permit medicaments to be retained in the first inch of the anterior urethra, including the fossa navicularis—a portion of the canal too important to ignore.



Urethral clamp.

The exception mentioned is the Cunningham clamp. I am indebted to Dr. Nelken for having first demonstrated this clamp to me. The objections found to this instrument are that the spring of the instrument is not sufficiently strong to compress the meatus properly so as to retain the urethral medicament; it is awkward of application, there being no arrangement whereby the blades can be pried apart, and even after being properly applied it frequently slips off.

It is believed that these faults have been corrected in the new clamp, the illustration of which leaves little to describe. Constructed of a single piece of finest quality steel wire 2 mm. thick, of figure-of-eight shape and with a strong grasp, it measures 8 cm. long by 3.5 cm. wide. Finger grips are conveniently placed, one on each side of the lower part of the clamp frame. The blades proper for compressing the meatus are each 2 cm. by 1 cm.; on their inner surfaces they have serrations which prevent slipping, once the clamp is properly applied. The inner surface of one of these blades with serrations is shown, greatly enlarged, in the inset on the left of the illustration, so as to bring out its exact construction. The latter feature adds no little value to the merit of the instrument. The clamp can be easily sterilized, lasts indefinitely, and will stay where it is placed. Although the clamp has a very firm spring, the blades are so constructed that no pain is experienced in its application.

For the purpose of obtaining a prolonged action from solutions or jellies of the silver salts in the anterior urethra, as well as for producing local anesthesia by means of solutions of novocain, etc., I have found this clamp a distinct aid.

Apart from the uses to which the physician may put the clamp, it has been found practical to have patients with anterior urethritis use the clamp themselves, for a patient can be persuaded to introduce medicaments into the urethra, apply the clamp, and retain the injection for fifteen minutes without effort. Few will hold the urethra closed for this length of time if the fingers are required. From an esthetic standpoint the clamp should be considered superior to the collodion "sealing-in" method of treating urethritis, because the clamp is safe, while a cotton-collodion dressing, even when applied by those most skilled, has a tendency to loosen at most inopportune times with results too obvious to require delineation.

The clamp was made by I. L. Lyons & Co., New Orleans. Macheca Building.

APPARATUS FOR WRITING WITH THE KNEE

ARTHUR T. BLACHLY, M.D., PORTLAND, ORE.

This apparatus is designed to permit persons of either sex who have lost their hands or the use of them to write legibly

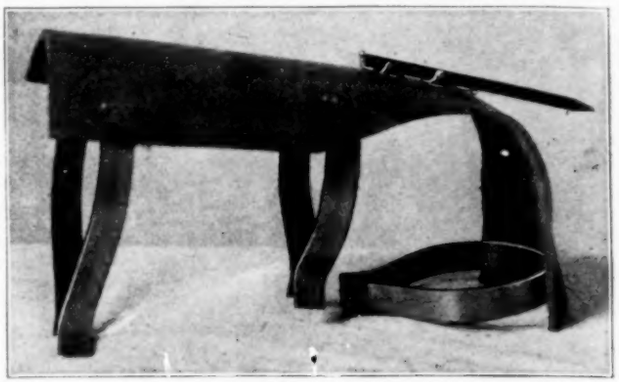


Fig. 1.—Apparatus for writing with the knee.

with their knees after a little practice. A piece of sole leather 15 inches long and 6 inches wide at one end and 4 at the other has a semicircular piece cut out on each side, 5 inches from the narrow end. This piece of leather is bent where the scallops come to fit over the bent knee, and the whole piece is bent from side to side. By two clips, such as are used in holding a pencil to the pocket, a pencil is fastened to the leather so as to project forward 4 inches in front of the knee.

Fig. 2.—Method of using knee-writing apparatus.

This apparatus is held firmly to the knee by three strong brass springs attached by rivets. These are ¾ inch wide and are made of strips 12, 13 and 14 inches long, respectively. To hold the paper in the proper position a small rack like a music rack is made of wood with a hook to adjust and hold it to a small, firm stand 2 feet high.

In writing, the heel is raised, and the foot, resting on the ball, gives the knee quite a wide range of motion. A stylographic fountain pen can be used as well as a pencil.

The device can be made cheaply. The model cost $1.50, and the springs could be replaced with straps costing 10 cents apiece, thus reducing the cost to $1.10. This device should be much more convenient than holding a pencil between the teeth or toes, as was formerly done by some. The stand can be made of an apple box, and a shelf put in it to hold the apparatus.

4411 Woodstock Avenue.

Therapeutics

DISTURBANCES OF THE KIDNEYS

(*Continued from page 1624*)

PYELITIS

Pyelitis develops from any obstruction of a ureter, whether of external or internal cause; from calculi, blood or bacteria in the pelvis of the kidney; from infection of the kidney substance; from tuberculosis of a kidney; from adjacent suppuration, and from an ascending infection of the bladder or pelvic organs.

If the ureter is not obstructed, germs reaching the kidney and being rapidly excreted, or even the reproduction of certain germs in the pelvis of the kidney, such as colon bacilli or typhoid bacilli, may not cause pyelitis. If, however, the ureter is obstructed, if the canal is imperfect, or if there is a chronic irritation or inflammation of the pelvis of the kidney, pyelitis sooner or later occurs. Infection or pyelitis of one kidney is a menace to the other.

Intestinal upsets, especially when aggravated by frequent constipation, allows the colon bacillus and other germs to reach the kidney through the lymphatics, and not infrequently in these conditions colon bacilli are found in the urine. These may disappear on the correction of the intestinal stasis. At times the colon bacilli may reach the kidney by way of the blood.

Direct ascending infection from the bladder through the ureter to the kidney is not frequent, except when there is urethra or bladder obstruction, such as an enlarged prostate. Infection of the bladder and pelvic organs may reach the kidneys through the lymphatics. This has recently been shown by Eisendrath and Schultz.[126]

While in the majority of cases the colon bacillus is the germ of infection, the tubercle bacillus, the typhoid bacillus and the various pus-producing germs are also causes of pyelitis, and, of course, frequently more than one variety of germ is present.

Females have infected kidneys more frequently than males; this is especially true in young children. The exact reason is not clear. Though the ease with which vaginal infection reaches the bladder may be a factor in the cause of kidney infection, in pregnant women it is doubtless due to some ureteral obstruction from pressure or twisting with the consequent dilatation of the renal pelvis; as stated, such a kidney is susceptible to infection.

SYMPTOMS

A kidney infection may cause only a bacilluria as evidenced by a slightly cloudy urine with a peculiar fishy odor; or it may cause a slight cystitis, with cloudy urine and an increased amount of mucus, perhaps followed by pus. Only cystoscopy and the passage of the ureteral catheter will determine whether one or both kidneys are affected. In these cases, if the urine is strongly acid there is less bacilluria and the urine is less cloudy than when it is alkaline in reaction. Localized pain, a loose kidney, or a palpable enlarged kidney may presumably show which kidney is affected. It is probably rarely found that pus comes from the two kidneys at once, but a purulent infection of one kidney sooner or later causes inflammatory or other disturbances of the other kidney.

A colon infection and bacilluria may continue for months without the development of pus and without causing many symptoms, but if pus is issuing from a kidney, there is almost invariably a history of pain, with colicky ureteral pains, in an exacerbation of which blocking of the ureter often occurs. The urine at this time coming from the healthy kidney may be clear. After the urine and pus back of a blocked ureter force a passage, a large amount of pus suddenly appears in the urine. While the pus is being retained and not freely evacuated from the kidney, fever generally occurs, often preceded by chills, rigors, and frequently by attacks of profuse sweating. Repetition of this history is typical of a purulent pyelitis.

These purulent urines from a kidney source are generally acid in reaction, and contain albumin often more than can be accounted for by the pus, and, sooner or later, casts. Frequently, however, there may be no albumin in the urine after the pus has been filtered out.

There is usually progressive loss of weight, loss of appetite, indigestion, restlessness during the night, and finally anemia. A somewhat constantly recurring afternoon or evening rise of temperature suggests a tuberculous infection, while an ordinary septic infection generally causes fever only when there is an obstruction to the free flow of pus. Hence a purulent pyelitis may go on for months without apparent fever.

It has long been recognized that typhoid bacilli may be found in the urine for weeks or even months after typhoid fever. It has been shown also that not infrequently tubercle bacilli may appear in the urine when there is a tuberculosis of some part of the body, especially of the lungs, even though the kidneys may not be involved. These bacteria, unless associated with secondary infection, may not produce symptoms, and do not cause pus. Doubtless colon bacilli occur in the urine on account of some stasis or intestinal indigestion much more frequently than is now known, and probably generally without causing symptoms.

The amount of pus in the urine may diminish and entirely disappear for a time and then recur; in the interim, however, the urine, if cultivated, may show germs.

(*To be continued*)

126. Eisendrath, D. N., and Schultz, O. T.: Lymphogenous Infection of the Urinary Tract, THE JOURNAL A. M. A., Feb. 17, 1917, p. 540.

Wild American Digitalis

The present scarcity of some varieties of botanical drugs has led to the search for new sources of supply. Following the suggestion of the late M. I. Wilbert, an examination of samples of wild-growing digitalis, which has now become a weed in various parts of the United States, was undertaken by the division of pharmacology of the Hygienic Laboratory, U. S. Public Health Service (*Public Health Reports*, March 9, 1917). Four samples of the wild plant from Oregon and one from Washington, together with samples of the cultivated plant from Wisconsin and Ohio, were collected at varying periods of their growth and air dried under favorable conditions, the leaves were extracted, and tinctures made according to the U. S. P. method were tested physiologically by the one hour frog method. The conclusion reached from the investigation was that the wild digitalis found in the northwestern states may be used as a source of supply for the various official preparations of digitalis, and that by using the ordinary methods of handling and preparing the leaves a highly active product may be secured which compares favorably with the activity of the cultivated leaves grown under more favorable conditions.

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SATURDAY, JUNE 9, 1917

THE FOOD REQUIREMENT OF HEALTHY CHILDREN

So much attention has recently been devoted to the problems of nutrition and the energy transformations of the adult body that the requirements as expressed in units of food fuel are beginning to be better understood both by the professions which have to deal with diet and by the laity. It would be an exaggeration to say that many persons are qualified to speak of daily food in terms of calories as they discuss gallons of gasoline or tons of coal in connection with other affairs of daily life. But there are signs of a more tolerant attitude toward the new language in which human dietary needs are best expressed. The exigencies of the present moment have served to focus attention more firmly than ever on what the nutritive needs of living bodies really involve.

For the long period of childhood and adolescence the available information is still far from adequate; and what is known has not yet become as readily accessible as it ought to be. A few years ago it was customary, in calculating dietary needs, to figure the portion belonging to the children of the family in terms of some roughly fixed fraction of the daily allowance for grown-ups. There is, however, an enormous range of variation in the food needs of children occasioned by the unlike physiologic status of these individuals at different ages and stages of growth. Age, size and activity occasion distinctive demands which have come into bolder prominence since the relief of enormous numbers of children of all descriptions has become a national duty in many parts of the world.

It has been said that when food is unrestricted, and the appetite is of the healthy juvenile character, there need be little fear of undernourishment. But delicate children do not always have a normal appetite; and where the food distribution is controlled as it is in public institutions, when a free choice or unlimited supply is not always permitted, the possibility of error expressed in malnutrition or retarded growth is ever present. It is peculiarly timely, therefore, to have a summary of the best evidence now available, such as has just been published by the New York Association for Improving the Condition of the Poor.[1] Its avowed object is to furnish a survey of the literature, observations, and experiments pertaining to the food requirements of children so that it will become easier to make an intelligent allowance for the adequate nourishment of children and at the same time to reach as many needy families as possible. As the author says, "while it is apparent that insufficient food may result in serious harm to the children, it is equally clear that an unnecessarily liberal allowance to some families may mean the denial of food to many others where thousands of dollars are used in relief."

The statistics collated in the New York survey of the evidence regarding food allowances for healthy children represent the indications furnished by three independent types of investigation, namely: (1) dietary, or observation studies in which the weight of the food eaten by the subject was recorded for a given period of time, and the food values either determined by analysis, or more commonly calculated from figures representing average composition; (2) metabolism or balance experiments in which the intake and output were compared by determining chemically the composition of both the food eaten and the excretory products, thus showing the amount of nitrogen retained in the body for growth of protein tissue, and (3) respiration experiments in which the actual heat produced by the body was either measured directly in an air-tight chamber impervious to heat, or calculated from the amount of oxygen consumed and the carbon dioxid exhaled. Since it is known that the oxidation of food yields energy, it follows that a measurement of the oxidation of foodstuffs in the body will give the amount of energy produced. This is usually and most conveniently expressed in calories.

In a general way the available data furnished by these three somewhat unlike methods of approach are quite similar. The averages may be summarized as in Table 1.

TABLE 1.—CALORY REQUIREMENT OF CHILDREN AT DIFFERENT AGES

Ages, Years	Calories	
	Boys	Girls
From 2 to 5	1,309	1,245
From 6 to 9	1,797	1,575
From 10 to 13	2,337	2,015
From 14 to 17	2,534	2,253

It will be noted that there is a difference between the requirements for the children of the two sexes. It might be thought that this is due solely to differences in size at the same age. This seems less likely at present than the assumption of unlike bodily activities, on which a part, at least, of the different needs depends. It is believed that the two sexes have the same basal requirement; that is, the amount of energy required for the maintenance of such internal activi-

1. Gillett, Lucy H.: A Survey of Evidence Regarding Food Allowances for Healthy Children, Publication 115, New York Association for Improving the Condition of the Poor, 1917.

ties as respiration, heart beat and circulation of the blood, and attainment of suitable muscular tone is comparable.

Age is the largest factor in determining the food requirement of the young. Per unit of weight the amount of energy required for "the mere processes involved in remaining alive"—in other words, the basal need—decreases with increase in age. Although these facts have long been recognized, the unusually conspicuous activities of growing children—a factor added to age and size—have not been so thoroughly appreciated in taking account of the proper food demands of the young. To this must be added further the requisite quota for increment of tissue or growth. Gillett[1] has further pointed out that greatly emaciated children with depleted tissues, which can and ought to be rebuilt rapidly, should receive a more liberal food allowance than would be required by normal children either of the same age or of the same weight. If suitable nutritive conditions are established, recovery or repair can proceed at a speed out of all proportion to the usual rate of growth at the same age.

In view of these considerations, involving features that are highly important rather than novel, we are admonished to adopt the recommendation of Sherman that the food requirement (calories per day) of each member of a family be estimated on his own merits. A small inactive man may require less than a large active boy or girl. This should be recognized and provided for. The upshot of the New York survey has been the compilation of a new set of "Standards" (Table 2) which deserve widespread recognition because of the care and intelligence with which they have been prepared.

TABLE 2.—FOOD ALLOWANCES FOR CHILDREN[1]

Age, Years	Calories per Day	
	Boys	Girls
Under 2	900-1,200	900-1,200
From 2 to 3	1,000-1,300	980-1,280
From 3 to 4	1,100-1,400	1,060-1,360
From 4 to 5	1,200-1,500	1,140-1,440
From 5 to 6	1,300-1,600	1,220-1,520
From 6 to 7	1,400-1,700	1,300-1,600
From 7 to 8	1,500-1,800	1,380-1,680
From 8 to 9	1,600-1,900	1,460-1,760
From 9 to 10	1,700-2,000	1,550-1,850
From 10 to 11	1,900-2,200	1,650-1,950
From 11 to 12	2,100-2,400	1,750-2,050
From 12 to 13	2,300-2,700	1,850-2,150
From 13 to 14	2,500-2,900	1,950-2,250
From 14 to 15	2,600-3,100	2,050-2,350
From 15 to 16	2,700-3,300	2,150-2,450
From 16 to 17	2,700-3,400	2,250-2,550

Quoting the report, the limits given make allowance for individual variation. If a child is tall and growing rapidly at 6 years of age, he may—and probably will—require 1,600 calories. If of smaller frame, an allowance of only 1,400 or 1,500 calories will be necessary with a normal amount of activity. If he is both large for his age and very active, he will doubtless require the upper limit of the allowance, 1,700 calories. It will be seen that this range of calories may be used to provide for the actual needs of each individual child at any age.

WAR MEASURES AGAINST TUBERCULOSIS

Our entrance as a nation into the war has made it necessary, as probably no other turn of events could have done, to take stock of our resources in all useful activities. We must sort the chaff from the wheat, the luxury from the necessity, the well tried and reliable from the dubious. This is not the time for theory. In the fight against tuberculosis, those measures which are merely theoretically pretty, those which are of dubious value, and especially those which are known to be worthless, should be eliminated.

The essential facts of tuberculosis were recently summed up by Dr. Theobald Smith.[1] We may deduce from this summary certain working principles: 1. There is every reason for continuing adequate rational measures for the restriction of tubercle virus in transit, that is, from sick to well. 2. Logically the first step in preventing the spread of tuberculosis is to render patients in the advanced cases harmless to others. 3. In the incipient cases they should receive treatment, looking to their cure, and the prevention of their becoming dangerous. 4. Recrudescence from latency is mostly produced by untoward conditions of life which lower general or local resistance. Resistance is kept up by normal conditions of life as regards food, shelter, rest, air, etc. 5. The only increase of resistance which can be achieved by treatment with tubercle bacillus preparations is that caused by the injection of living tubercle bacilli—in other words, "no tubercle, no immunity." "We cannot afford to play with this dangerous method." 6. Tuberculous infection with the bovine type, derived from cow's milk, is not in general a disease concerning human epidemiology, since it is not transmitted from man to man as is the human type. 7. The theory that infection is always obtained in early life has not been conclusively proved.

Translated into terms of action, this means that we must continue to apply well tried rational measures, and in as rapidly widening scope as the increased demands on our facilities will permit. Patients with advanced and dangerous cases must as far as possible be segregated in hospitals, or instructed and supervised. The incipient cases must be detected early and official notification made. Dispensary and sanatorium treatment should be provided. A large part of the increase of tuberculosis noted in those European nations which have borne the severest brunt of the war is contributed by recrudescences in those "cured," "arrested" or "latent" cases in which, under normal conditions, the patients would for the most part have continued in comparatively good health. Persons of this class constitute a hard problem for those who will administer the selective draft, either for military

1. Smith, Theobald: Certain Aspects of Natural and Acquired Resistance to Tuberculosis and Their Bearing on Preventive Measures, THE JOURNAL A. M. A., March 3, 1917, p. 669; March 10, p. 764.

or for industrial service. While some patients have been benefited by the outdoor regimen, others have speedily succumbed to the hardship. There is, however, one outstanding fact which we can apply. Unless the population as a whole is well nourished, we may expect an increase in the number of recrudescences. In a short time this will throw on our hands an enormous number of dangerous cases. If we cannot take care of these patients they will play their grave part in the vicious circle of tuberculosis transmission. The European figures available are too fragmentary for definite conclusions, but we should profit by the hint that the fat shortage is perhaps a serious deficiency in the dietary of certain of the stricken nations. To prevent bovine infection from milk, it must be pasteurized or boiled. We cannot wait for the establishment of nontuberculous herds.

So much for what we must attempt to accomplish. It is supremely important that neither time nor money be wasted on methods which have no demonstrated value, or on those which have been shown to be worthless. It would seem scarcely necessary to mention the latter, were it not for the fact that enthusiasts, cranks, and worse than these, are perennially active in trying to secure in influential circles the adoption of various serums, vaccines and other preparations which pretend to prevent and cure tuberculosis. It would appear that certain of these products are being "boosted" by the concerted action of persons who would expect to profit by their adoption. Under the disguise of a scientific or even an altruistic veneer, they advertise their wares in medical journals. The similarity of their phraseology and argument betrays their common interest in a concerted "drive."

We can easily avoid the alluring representations of propagandists of this class — alluring because of the guise of science and altruism which they assume — by holding fast to one fact established by all of the serious work on tuberculosis since Koch, that in order to induce immunity to tuberculosis one must first introduce living tubercle bacilli, and that even this immunity is transient and only relative, and certainly impracticable.

The material reduction in the tuberculosis death rate in the past fifty years has not been due to the use of any serum, vaccine, tuberculin or drug. It has been due to a combination of sociologic, sanitary and hygienic changes, some deliberately planned and others inevitably accompanying what we call "progress." We cannot name or even trace all of these factors, but we can safely attribute much of the improvement to better and more food per capita, better housing conditions, less exposure to hardship, earlier diagnosis and consequently earlier treatment, the growth of the hospital, sanatorium and dispensary idea, better milk, and finally a more enlightened attitude on the part of the public toward the transmissible diseases.

In this emergency we must retain and encourage the intensification of the methods and conditions which have proved valuable in the past, and which no radical innovation has as yet arisen to supplant.

NEWER FEATURES OF ADEQUATE DIETARIES

The lecture of McCollum of the University of Wisconsin on the supplementary dietary relationships among certain of our naturally occurring foodstuffs, which was given before the Harvey Society of New York and recently published in The Journal,[1] illustrates the remarkable innovations which recent years have brought about in the study of the science of nutrition. It reviews the experiences in feeding experiments which have wrought these changes, and indicates why the supposedly ideal plans of a decade or more ago to nourish animals on diets composed of purified protein, carbohydrates, fats and inorganic salts with cellulose as "roughage" — a ration theoretically correct from the standpoint of that time — were doomed to failure.

Ever since Hopkins[2] reported his observation that the addition of small amounts of milk to food mixtures consisting otherwise of purified protein, fats, carbohydrate and salt exerted a favorable influence on nutrition which was out of all proportion to the caloric value of the added milk, it has become more and more probable that there are certain as yet unrecognized substances, present in many of our natural foods, which are indispensable, in an otherwise adequate diet calculated to promote perfect nutrition. The story of how these so-called vitamins have come into prominence as something to be kept in mind and provided for in the construction of the dietary has been told from time to time in these columns[3] as new contributions have been added to our store of facts.

At the present moment the foremost American workers in the study of nutrition are inclined to postulate the need of at least two types of vitamins, one of which is soluble in fats and is present in such natural products as milk, beef fat, cod liver oil and egg yolk, but not in any notable abundance in the ordinary vegetable oils or the common cereals. The other, water-soluble vitamin, is more widely distributed where active cell structures are found, and is conspicuous in milk and eggs.

The enthusiasm for these new ideas has tended, for the moment, to divert attention from other equally important and perhaps equally novel aspects of the subject. Since various factors essential to the dietary

1. McCollum, E. V.: The Supplementary Dietary Relationships Among our Natural Foodstuffs, The Journal A. M. A., May 12, 1917, p. 1379.
2. Hopkins, F. G.: Jour. Physiol., 1912, **44**, 425.
3. Flavors and Vitamins, Current Comment, The Journal A. M. A., Dec. 26, 1914, p. 2296; Modern Bread and Deficiency Diseases, April 22, 1916, p. 1314; What Is a Vitamin? editorial, May 6, 1916, p. 1470; Dietary Toxicity Versus Deficiency, Oct. 7, 1916, p. 1094.

are now clearly recognized, it is quite possible to compound a ration in which one or more of them is lacking. Nutritive disaster then ensues sooner or later. It remains to be seen, says McCollum, whether or not the animals which have been brought experimentally into a condition of nutritive disaster by a series of diets, each of which was faulty in respect to only a single dietary factor, as inorganic salts or protein, or the unknown A or B, will reveal to the histologist and pathologist lesions analogous to those seen in the states of human malnutrition presumably of dietary origin.

In the case of maize, for example, more than a single dietary factor is at fault in determining the failure of young animals to grow on this seed. When suitable inorganic salts, additional protein of an adequate sort, such as the casein of milk, and butter fat with its fat-soluble vitamin are added, successful nutrition becomes assured. All of these additions, representing the remedying of three distinct defects of maize alone, are needed. For wheat a similar story has been evolved, except that the special deficiencies of this seed are somewhat different from those of maize.

By an appropriate selection and combination of natural foods based on a physiologic analysis in the manner briefly indicated, it has at length begun to be possible to accomplish in a somewhat scientific way the construction of dietaries in which two or more products, each inadequate by itself, may supplement each other so as to make an adequate mixture. Many of our common food concoctions are in reality exemplifications of such combinations. But empiricism is by no means a safe guide. It is gratifying to realize that a mode of attack on the problems of suitable combinations is in sight. Meanwhile we must learn to avoid too great dogmatism, the dangers of which have already been indicated in another connection in relation to questions of diet.[4] As McCollum points out:

> The consumption of a varied diet makes in some degree for safety, but will by no means insure safety. . . . The inadequate diets of man are probably never highly satisfactory with respect to all factors but one. Rather they are in some degree unsatisfactory with respect to two or three dietary factors simultaneously, and the probability that they will be so increases greatly as the food supply tends to be limited to the seeds of plants, and such manufactured products as are derived from the endosperm of seeds. The time will doubtless come within a few years when specific advice can safely be given as to the best way to plan a variety of human dietaries; but a consciousness of the paucity of our knowledge concerning the peculiar supplementary relationships among our natural foodstuffs forbids more than a general statement as to the safest policy now.

4. Limitations of the White Bean as a Dietary Component, editorial THE JOURNAL A. M. A., June 2, 1917, p. 1627.

War, a Traumatic Epidemic.—"War," said the Russian army surgeon Pirogoff, "is a traumatic epidemic. Not medicine, but administration plays the leading part in the aid of the sick and wounded in the scenes of war."—Lieut.-Col. C. C. McCulloch, Jr., U. S. Army: The Scientific and Administrative Achievement of the Medical Corps of the United States Army, *The Scientific Monthly.*

Current Comment

OKLAHOMA AND THE CHIROPRACTORS

Slowly but surely the public is becoming informed regarding the utter inadequacy of chiropractic, and legislatures are beginning to deal with this cult more intelligently. There is no more fitting proof of this than what recently took place in Oklahoma. The chiropractors had made their customary attempt to secure a legal status in that state without having to comply with the requirements of the medical practice act. This bill was defeated. Another bill was substituted for it, which properly placed their licensure in the hands of the state board of medical examiners. The latter bill was passed in spite of a powerful lobby, who referred to the bill as "the crowning iniquity of the medical trust," "this damnable bill," "damnable crime" and other like epithets. The bill had passed the senate and was being considered in the house when "Dr." Willard Carver, the leader of the chiropractors and head of a chiropractic college in Oklahoma City, made an astounding and utterly unfounded charge, that the medical profession had raised "a fund of over $674,000" to defeat chiropractic legislation in Oklahoma. He thus charged, by implication at least, that the senate had been bribed. The senate took prompt action by citing Carver to appear and answer contempt charges. A report says that on his inability to offer proof of his statement, he was fined $500 and sentenced to serve ten days in jail. These procedures are a duplicate, although somewhat more spectacular, of what has been going on in many states during the last few years, in the efforts of this ill-trained group of "healers" to obtain the right to practice medicine without first securing the education required by medical practice acts. During the present sessions of the various legislatures, excepting in one state — North Carolina — their efforts have been defeated. Meanwhile, Oklahoma has secured an amendment to its practice act giving the licensing board ample control of this medical cult.

PRAYERS FOR PROFIT

The Christian Science Church is said to have among its followers no scientist recognized by men of science, no authority on the Bible recognized by biblical students, no man of standing in the world of philosophy, and no physician of standing among medical men — all of which may be true. Anyhow, it is well known that its "healers" offer prayers at so much per; that they give "absent treatments," for which a charge is made, and that they "treat" human disorders by spiritual means — for the profit there is in it — yet Christ did not exact payment from those He healed. Which, of course, is immaterial. It is in keeping with the evidently commercial character of this "church" that those interested in its propagation have succeeded in securing exemption for its "healers" from the educational requirements of the medical practice acts in twenty-eight states! Ohio, however, does not seem to believe in thus commercializing religion, since in that state, in spite of a powerful lobby, the Eddyites were defeated in their efforts to secure exemption

from the medical practice act. They can pray for the sick all they please; they can give either present or absent treatments, but they cannot legally charge for so doing. Of course this will not prevent them from continuing to reap a rich harvest without work and without expense. Oh, what a joyous, carefree life is that of an Eddyite practitioner!

SHALL CIVILIAN PHYSICIANS EXAMINE RECRUITS?

THE JOURNAL has received many inquiries as to why civilian physicians cannot be authorized to examine recruits for the army, thus relieving the commissioned medical officers of an immense burden. Possibly the reason may be the untrustworthiness of such examinations on account of the personal interest of or other influence brought to bear on the examiner, and especially because civilian physicians are not informed as to military requirements. We are led to believe this from a communication received from a medical reserve officer, who relates his observations during the first week of his active duty in connection with a reserve officers' training camp. When the young men received orders to present themselves at the training camp, they were instructed to have themselves examined by their home physician before reporting for duty, the object being to eliminate the manifestly unfit and also to save such men the time and expense of a trip to camp. At the training camp from which our correspondent writes there are between 4,000 and 5,000 prospective reserve officers. During the first week there were found simply among those who reported to the Medical Department for "sick call" before the regular routine examinations by medical officers were instituted, two men with exophthalmic goiter, one with a chronic heart condition not compensated, and several with acute venereal disease contracted before coming to camp. One case in particular attracted attention because of the numerous defects found which would disbar the man from service. The first step in the examination of recruits is to take the weight and height. This man was 64½ inches tall, and weighed 104½ pounds. Only the Adjutant General of the Army has the special authority to accept an applicant whose weight falls below 120 pounds. Among other defects found on a cursory examination of the man mentioned were marked hammer toe of the large toe of each foot with painful bunion, hammer toe of the second and third toes of each foot so severe that the nail struck the ground, and one leg was an inch shorter than the other. This the man compensated by standing in a position which gave him the appearance of marked scoliosis. There was severe pyorrhea. There was a distinct heart murmur; the apex beat was in the sixth interspace outside the nipple line; the heart reacted severely to the slightest excitement. Finally, there were both external and internal hemorrhoids. This case is an exceptionally severe one, but it is an actual case. And yet this man had presented himself with a certificate of perfect health in the form of a report of an apparently rigid examination made by his family physician, had been enrolled in the training camp for a week, and his condition discovered when he reported for sick call, before the official examination had been made. Medical officers are supplied with "Rules for the Examination of Recruits."[1] They should thoroughly familiarize themselves with these rules before attempting the work.

THE CONTROL OF INDUSTRIAL ANTHRAX

Although the cause and mode of infection of human anthrax have long been known and energetic measures have been taken to prevent its spread in Europe, the United States only recently has awakened to the need of preventive legislation. Andrews[2] states that there is one death from anthrax for every five deaths from lead poisoning in the registration area of the United States. About one case of every five reported is fatal. Practically all industries in which anthrax occurs are found in this country. Of these the leather, wool, animal hair and bristle, horn, bone and glue industries rely in large part for animal products on portions of Russia, China and other Asiatic countries, and South America, in which sanitation is not highly developed and anthrax prevails. To reduce the danger from these sources, the United States recently has forbidden the importation of products from animals infected with anthrax, and now requires disinfection of such products as may come from infected districts. While this measure will reduce the danger from working with such materials, it cannot eliminate it because of the great resistance of the anthrax spore to germicides. From reports of European commissions on anthrax, it appears that no certain means of destroying the spores by heat or antiseptic solutions without injuring the commercial value of the hides, wool or other material have yet been discovered. The real need in America would seem to be specific regulations compelling employer and employee to take certain simple precautions in the handling of suspected materials, as the wearing of gloves and masks for those carrying hides and wool, separate working clothes for the factory, facilities for washing and bathing with hot water and soap, the disinfection of workrooms and benches, and especially the elimination of dust by exhaust systems in dusty processes, such as wool-sorting, from which the exceedingly dangerous pulmonary type of anthrax is contracted. The posting of notices which would bring home to the worker the modes of infection of anthrax, the danger of infecting slight abrasions of the skin, the first symptoms of the disease (the pimple which later becomes the black centered pustule), and especially the need for early treatment by the physician, would also be of great help. Arrangements should be made for the liberal use, at little or no cost to the infected worker, of antianthrax serum, which now is expensive. When preventive means of definite value are so near to hand, it is a pity if life is lost because of neglect and carelessness by those who are responsible for the health and welfare of workers exposed to the dangers of anthrax.

1. This pamphlet, G. O. 66, W. D. 1910 and supplementary circular No. 2 will be sent by THE JOURNAL on receipt of a stamped self-addressed envelope.
2. Andrews: Bull. 205, U. S. Bureau of Labor Statistics, 1917.

Medical Mobilization and the War

KINSMEN, HAIL!

This poem, by one of England's poet-laureates, was written in 1894. It reads as though it were written for the present war; in any event, it is so appropriate to the day that it is worth reproducing.

What is the voice I hear
On the winds of the western sea?
Sentinel, listen, from out Cape Clear,
And say what the voice may be.
'Tis a proud free people calling loud
To a people proud and free.

And it says to them, "Kinsmen, hail!
We severed have been too long,
Now let us have done with a wornout tale,
The tale of an ancient wrong;
And our friendship last long as love doth last,
And be stronger than death is strong."

Answer them, sons of the selfsame race,
And blood of the selfsame clan;
Let us speak to each other face to face,
And answer as man to man;
And loyally love and trust each other
As none but free men can.

Now fling them out to the breeze,
Shamrock, Thistle and Rose;
And the Star Spangled Banner unfurled with these—
A message to friends and foes
Wherever the sails of peace are seen,
And wherever the war-wind blows.

A message to bond and thrall to wake;
For wherever we come, we twain,
The throne of the tyrant shall rock and quake,
And his menace be void and vain;
For you are lords of a strong young land,
And we are lords of the main.

Yes, this is the voice on the bluff March gale:
We severed have been too long,
But now we have done with a wornout tale,
The tale of an ancient wrong;
And our friendship last long as love doth last,
And be stronger than death is strong.

—Alfred Austin.

MEDICAL MILITARY INFORMATION FOR PHYSICIANS

The following pamphlet will be sent on receipt of 6 cents in stamps to cover cost of mailing:

"The Medical Officers of the Army," by Major William N. Bispham, M. C., U. S. Army; including "The Medical Corps of the Army as a Career," by Major R. C. Noble; the text of the Geneva Convention; lists of literature, etc. 72 pp.

Any of the following mentioned pamphlets or circulars will be sent by The Journal on receipt of a stamped self-addressed envelope:

1. What the Civilian Doctor Called to Active Service with the Army Should Know, by Major W. J. Lyster; a reprint of three articles which appeared in The Journal in 1916, giving the duties of the physician in the zone of the interior, on the line of communication, and in the zone of the advance.

2. Rules for the Examination of Recruits; consisting of G. O. No. 66 and Circular No. 2, giving the regular technic of examination of recruits for the United States Army.

3. Examining Boards for Applicants for the Medical Reserve Corps; a list of boards officially constituted to pass on applicants for the Medical Reserve Corps.

4. Information Regarding Application for Appointment in the Medical Reserve Corps.

5. Application Blanks for Appointment to the Medical Corps and to the Medical Reserve Corps.

6. General Information for Officers Entering Service in the Medical Reserve Corps; Bulletin VII, Army Service Schools, 15 pp.

Salary of Reserve Officers in Camp

To the Editor:—Please inform me if medical officers in the Reserve Corps draw salaries when ordered to training camps.

OLIVER H. GRIFFITH, M.D., Parkersburg, W. Va.

ANSWER.—A medical officer when ordered to active duty receives the salary of the rank in which he is commissioned.

Examination of Recruits Under Draft

To the Editor:—Will you please inform me who is going to examine the men recruited by selective draft as to their physical qualifications? Are the members of the Medical Corps the examining board, or are volunteer civilian physicians to pass on the candidates?

J. A. VALENTA, M.D., Iowa City, Iowa.

ANSWER.—It is understood that the examination of recruits will be made by regularly created boards, and that these boards will be composed of Medical Reserve Officers on active duty and detailed for this purpose.

Moving to Another Location After the War

To the Editor:—If a man enters the service of the government, serves through the war and is honorably discharged when his services are no longer needed by the government, finds circumstances so changed on his return to his former location that it is not advisable for him to reopen his office there and must find a new location in some other state that does not reciprocate with his former location, will he be required to stand another examination before the State Board of Medical Examiners in the state of his choice before he will be allowed to practice medicine? In other words, will active service in the Army, Navy, Public Health Service, etc., during the time of war, entitle a physician to practice medicine in any state of the Union? I am in a small town that is not large enough for two. Should I enter the service and find on my return home that I have lost my practice to some "slacker" or for other cause, and find it necessary to locate elsewhere, will my service to my government entitle me to locate in some other state without examination? No other state reciprocates with Alabama, and the study necessary for me to pass an examination would be an enormous loss of time and money when most needed, makes me hesitate before giving up the practice it has taken me several years to build.

S.

ANSWER.—The great sacrifice that many physicians will make when they leave their homes to go into the army work will be the possible loss of their practice—the business they have built up. The organized profession in nearly every state is trying to make arrangements whereby the loss will be minimized, but undoubtedly absence for a year or two will mean the total loss of practice, if that practice was general in character, and in a locality where there are many other physicians.

In regard to securing new locations: This will not be difficult in many states in which reciprocity has been provided for by the Medical Practice Act, and in which the licensing board has established reciprocal relations with other states. In some states—Alabama, for example—the law provides for reciprocity, but the licensing board has not established such relationships. The probability is, however, that this will be established if there are many cases such as that of our correspondent from Alabama. Furthermore, already the practice acts in eight states provide for the licensing of retired medical officers of the United States Army, Navy and Public Health Service without further examination, and possibly this may be extended to apply to medical reserve officers who have been in active service.

Appointment of Officers in Medical Reserve Corps

During the week ending May 26, 1917, there were recommended to the adjutant-general of the army for commissions in the Medical Reserve Corps, twelve majors, seventy captains and 139 lieutenants.

During the week ending June 2, 1917, there were recommended to the adjutant-general of the army for commissions in the Medical Reserve Corps, ten majors, 160 captains and 663 lieutenants.

Orthopedic Surgeons Arrive in England

The Goldthwaite unit of orthopedic surgeons, which went to England to undertake orthopedic work under the direction of Col. Robert Jones, arrived safely during the week ending June 2.

Chicago Unit Reaches England

A cablegram from London announces the arrival in England of the last of the six American Red Cross units ordered

abroad, namely the Chicago unit. This unit is commanded by Major Christopher C. Collins, with Major Frederic A. Besley as medical director. Another message from Mrs. Whitelaw Reid of London announces that the New York, Boston and Cleveland units have already gone to hospitals in France.

What's the Matter with Pocatello?

To the Editor:—Anent your current comment, THE JOURNAL, May 26, "The Duty of the Medical Profession," I desire to state that when war was declared there were sixteen practicing physicians in Pocatello, Idaho. Since that date one has entered the Navy Medical Corps, one has reported for duty in the Medical Reserve Corps, four others have already received commissions in the same service, and two others have applied for commissions, making a total of eight out of the sixteen. Is there anything wrong with Pocatello?

FRANCIS H. POOLE, M.D.
Secretary, Pocatello Medical Society.

Many Ask Exemption

In an address delivered by Major Robert E. Noble, M. C., U. S. Army, before about 1,500 physicians of New York City, at a medical reserve rally, May 28, he is reported to have said:

> We have offered commissions to five thousand men. One-half of them have accepted. Of the officers ordered to the training camp the number who have asked to be exempted is simply appalling. I entreat you as citizens of this great country and as members of this noble profession to give the service we ask, in this time of crisis.

Special Committee to Study Medical Conditions at the Front

Major Hugh Hampton Young, M. R. C., Baltimore, director of the James Buchanan Brady Institute at the Johns Hopkins Hospital, has been selected to head the special mission under the direction of Gen. William C. Gorgas, Washington, D. C., and the Council of National Defense that is to study medical necessities at the battle front, and will have entire charge of the medical care of the American Army in France. Dr. Young has already started on his mission and on his arrival in England will report to Surg.Gen. Sir Alfred Keogh, R. A. M. C. He and his staff will also report on the advisability of establishing in this country a hospital for the care of wounded and disabled American soldiers who may have to be sent home. Dr. Young will be accompanied by Capt. Louis C. Lehr of Georgetown University, Capt. Montague L. Boyd of Emery College, Atlanta, and Lieut. Howard L. Cecil of the Brady Institute, Johns Hopkins Hospital.

Staple Supplies for War Conditions

The Council of National Defense has issued under date of May 9, 1917, Part One of a series of pamphlets which will include lists of staple medical and surgical supplies selected to meet war conditions. These pamphlets have been prepared by the Committee on Standardization of the Council of National Defense. Part One is devoted to surgical instruments and includes a miminum number of articles. The lists of surgical instruments and apparatus were selected by subcommittees appointed by the Committee on Standardization. These committees were composed of medical officers of the Army, Navy, Public Health Service a ! Red Cross, and civilian practitioners representing all the specialties of medicine, working in conjunction with committees of manufacturers of such instruments and appliances. All of the instruments are illustrated and adequately described. The book may be obtained by addressing the Government Printing Office, Washington, D. C.

Training of Volunteer Nurses' Aids

The Committee on Hospital and Medical Facilities of the Mayor's Committee on National Defense, New York, believing that many hospitals will wish to train women as volunteer nurses' aids to serve in their own or other civilian hospitals during the period of the war, has outlined standards for such a course of training. These have been formulated by a subcommittee of this committee, working in cooperation with the New York County Chapter of the American Red Cross, and have the approval of the American Red Cross.

It appears that a plan for the training of volunteer nurses' aids has already been worked out by the Red Cross Nursing Service, and that a course of instruction for that purpose has for some months been given in base hospitals. With certain slight changes in the theory and a moderate increase in the amount of time devoted to certain practical procedures, the course appears to be a suitable one for the purpose for which it is intended.

The committee recommends that the plan of training for volunteer nurses' aids now given in base hospitals under the auspices of the Red Cross Nursing Service be accepted and extended to such other hospitals as may be approved by the Red Cross for the purpose, and that such courses wherever given should conform substantially to this plan and be carried on under the same auspices.

In view of the fact that hospitals lacking proper educational facilities and unable to offer a proper field for such training, are attempting to establish short courses of training, it is of considerable importance that such efforts should as far as possible be placed under the control of the Red Cross, which forms our national nursing service. In no other way can volunteer nurses' aids be given the official recognition which will make them available for service wherever they may be most needed.

The plan of training for volunteer nurses' aids in connection with base hospital units calls for a short course of theory covering fifteen periods of two hours each (thirty hours in all, for theory) followed by a course of training in practical work in hospital wards, covering twenty-four periods of three hours each (seventy-two hours in all, for practice).

It is recommended that the courses of theory and practice be carried on in the manner described above, or concurrently, where that method proves more convenient to the hospital giving the course, and that the period of practical work be increased from seventy-two hours to a maximum of 120 hours. This increase seems advisable, not in order that the range of work for which nurses' aids should be prepared may be enlarged, but rather that more time may be given them to acquire some reasonable degree of skill and reliability in the performance of the tasks to which they be assigned.

The adjustment of the time in which these courses may be completed should be left to the hospital selected.

The general requirements laid down by the Red Cross for the training of volunteer nurses' aids are:

(*a*) That candidates for admission to the course should not be under 23 years nor over 50. (It is recommended that they bring in addition satisfactory evidence of a good English education and of good moral character.)

(*b*) That a paid instructor be appointed for this special work who shall preferably be an enrolled Red Cross nurse, selected by the superintendent of nurses, and her appointment approved by the Red Cross Nursing Service.

(*c*) That the number of persons admitted to classes in theory should not exceed twenty, and that for practical work not more than ten should be admitted to any hospital at any one time for training.

(*d*) That the usual uniform for volunteer aids be worn during the training, but that the insignia of the Red Cross be allowed only when on satisfactory completion of the course the aid is detailed to regular duty.

(*e*) That students entering for training as volunteer nurses' aids should be enrolled by the Red Cross Nursing Service and that examinations be conducted and certificates awarded through that service.

(*f*) That a suitable fee be charged for the course of instruction, of which 50 cents per capita be sent to the Bureau of Nursing Service at Washington, D. C.

Ambulance Items

One dozen General Motor Company special war ambulances have been ordered by Lieut. Austin F. Riggs for the use of Ambulance Company No. 13, Stockbridge, Mass.——Ambulance Company No. 3, of the University of Chicago is said to have received instructions to mobilize at once. It is understood that the company will proceed to a point near Allentown, Pa., where it will be equipped and placed in readiness to proceed to France.——The nineteenth section of the American Field Ambulance left Paris for the front, May 17, and the second transportation section left on the following day. The Chicago Traffic Club has donated an

ambulance with full equipment for service in France.——Minneapolis business men have offered three motor ambulances, fully equipped, to the University of Minnesota Red Cross Base Hospital.——Students of the University and Bellevue Medical College, New York, have offered to furnish and equip ten ambulances to be sent with the American troops for foreign service.——Ambulances for use in France have been given by Thomas M. Dickinson and Laurence H. Armour of Chicago.——A Red Cross Ambulance Company was organized at Butler House, Chicago, May 28.——Amherst College Alumni, Chicago, have received $1,600 for an ambulance for the American ambulance field service. Louis G. Caldwell of the class of 1913 will drill the ambulance.——The citizens of Riverside, Ill., have unanimously agreed to provide and equip an ambulance for France, instead of having a Fourth of July celebration; the ambulance will be driven by Clinton B. Evans, Jr., Riverside.——The Chicago Athletic Association has donated two ambulances for use in France, one to be driven by Joe Loomis, the other by Harrison Lobdell.——Mrs. A. Montgomery Ward, Chicago, has given two ambulances for service in France.

Reserve Officers Ordered to Active Duty

The following officers of the Medical Reserve Corps have been ordered to active duty at the places mentioned:

To FORT MEYER: Lieut. John Milliken, Redding, Maine.

To NORTHEASTERN DEPARTMENT: Lieut. Paul D. White to report to commanding general for duty pertaining to examination and enlistment of Massachusetts General Hospital base unit.

To FORT RILEY, KAN.: Major Philip K. Gilman, San Francisco; Capts. Eugene L. Opie and Harry M. Moore, St. Louis; Lindsay S. Milne, Kansas City, Mo.; Richard T. Glyer, Brooten, Minn.; James W. Thornton, Ackley, Iowa; Eugene R. Lewis, Dubuque, Iowa; William H. Hargis, San Antonio, Texas; Thomas P. Doole, Eagle Lake, Texas; Mendell A. Jones, Riverside, Calif.; Bruce Ffoulkes and Bertram F. Alden, San Francisco; Harry T. Southworth, Prescott, Ariz.; Lieuts. William F. Ball, Batesville, Ark.; James V. Falisi, Little Rock, Ark.; Delbert Smith, Michael J. Owens and Frederick A. Hecker, Kansas City, Mo.; Walter P. Glendon, Bridgeton, N. J.; William C. Dieckman, Dexter, Mo.; Emmett F. Cook, St. Joseph, Mo.; Leo P. Bell, Rochester, Minn.; Homer Beall, Malden, Mo.; Warner G. Workman, Tracy, Minn.; Theodor Bratrud, Grand Forks, N. D.; Stephen A. O'Brien, Mason City, Iowa; Cecil G. Morehouse, Waukon, Iowa; Frederick W. Bowles, Ottumwa, Iowa; Harry H. Robinson, Rufus I. Newell and William S. Frost, Spokane, Wash.; William L. McClure, N. Yakima, Wash.; Charles E. Eaton, Seattle; Karl T. Brown, Indianapolis; John B. Steele, Chattanooga, Tenn.; Albert S. Rider, Flanders, S. D.; William C. Smith, Ralph L. Sharkey, Joseph A. Pettit and Ferdinand H. Dammasch, Portland, Ore.; Leo W. Chilton, Canyon City, Ore.; Vestal R. Abraham, Hook River, Ore.; Pleasant P. Nesbitt, Muskogee, Okla.; Louis A. Milne, Lawton, Okla.; Charles E. Swezy, Winnemucca, Nev.; Frederick A. Van Buren, Omaha; James C. Tucker, Long Pine, Neb.; Willard S. Howard, Alliance, Neb.; Paul R. Howard, North Bend, Neb.; Frederick Binder, Corning, Iowa; John D. Bartlett, Grass Range, Mont.; Edwin R. Tenney, Kansas City, Kan.; Joseph D. Pettet, Arcadia, Kan.; Jarvis E. Hodgson, Downs, Kan.; John B. Close, Marysville, Kan.; Frank M. Sprague, Pocatello, Idaho; Philip Work, Pueblo, Colo.; Charles F. Stough, Colorado Springs, Colo.; Caleb W. Presnall, Trinidad, Colo.; Oscar F. Broman, Greeley, Colo.; W. Claude Copeland, Hotchkiss, Colo.; Andrew W. Smith and Joseph D. Condit, Pasadena, Calif.; Albert M. Meads, Berkeley, Calif.; Edgar H. Howell, Richard J. Dowdall and Arthur C. Gibson, San Francisco.

To FORT OGLETHORPE, GA.: Majors John T. Burris, High Point, N. C.; Bert Wilder Caldwell, Pittsburgh; Harold Dunbar Corbusier, Plainfield, N. J.; Edgar S. Linthicum, Baltimore; Capts. Howard E. Ashbury, Bertram M. Bernheim, Eveleth W. Bridgman, Thomas R. Chambers and John G. Murray, Baltimore; Elliott B. Edie, Connellsville, Pa.; Thomas M. Foley, Washington, D. C.; Stillwell C. Burns, George S. Mintzer, Alfred J. Ostheimer and John S. Rodman, Philadelphia; William H. Thomas, Steele's Tavern, Va.; Lieuts. Joseph D. Aronson, Philadelphia; William Bates, Philadelphia; Clarence F. Bernatz, Braddock, Pa.; James D. Blevins, Pittsburgh; Lewis Booker, New Castle, Del.; Guy C. Boughton, Erie, Pa.; Joseph H. Boyles, Greensboro, N. C.; Noss D. Brant, Crafton, Pa.; Samuel H. Braude, New Haven, Conn.; Alfred J. Buka, Pittsburgh; Webster Calvin, Hollidaysburg, Pa.; Charles J. Cole, Jr., Elkins Park, Pa.; Charles A. Coll, Philadelphia; Joseph H. Collins, Pittsburgh; Carson Coover, Harrisburg, Pa.; Ralph E. Dees, Greensboro, N. C.; Thomas F. Dodd, Lincolnia, Va.; Ernest W. Downton, Kirkwood, N. Y.; Joseph C. Edgar, Oakmont, Pa.; James Burrow Edwards, Chanute, Kan.; Lester Efird, Tampa, Fla.; Leon Felderman, Philadelphia; Charles S. Flagler, Stroudsburg, Pa.; Frank Freeland, Maywood, N. J.; Friend B. Gilpin, Cranford, N. J.; Donald Guthrie, Sayre, Pa.; William M. Hopp and Eugene H. Hayward, Baltimore; John R. Hemminger, Somerset, Pa.; Thomas B. Henderson, Henderson, N. C.; John N. Henry, Philadelphia; George J. Heuer, Baltimore; William W. Hoggatt, Bradentown, Fla.; Russell R. Jones, Edgewood, Pa.; Robert A. Keilty, Lansdowne, Pa.; David D. Kennedy, Pittsburgh; George C. Kilpatrick, Mobile, Ala.; George M. Laws, Philadelphia; Walter E. Lee, Darby, Pa.; Horace R. Livengood, Elizabeth, N. J.; Floyd D. Lohr, Derry, Pa.; William J. McAnally, Boston; Gilpin M. McCain, New York; Henry E. McClenahan, Pittsburgh; Thomas L. McCullough, Homewood, Pa.; John A. McKenna, Lansdowne, Pa.; Hertel P. Makel, Baltimore; Harrison Martland, Newark, N. J.; Jacob L. Mathesheimer, Jersey City, N. J.; Frank V. Meriwether, Gantt, Ala.; Floyd Miller, Ashboro, N. C.; Charles H. Mitchell, Trenton, N. J.; James C. Motley, Abingdon, Va.; John H. Musser, Jr., Philadelphia; Bert F. Ober, Latrobe, Pa.; Newdigate M. Owensby, Baltimore; Frederick J. Pate, Greensboro, N. C.; Thomas C. Peightal, New York City; Don P. Peters, Baltimore; Damon B. Pfeiffer, Philadelphia; Kenneth A. Phelps, New York; George M. Piersol, Philadelphia; Llewellyn Powell, Alexandria, Va.; John K. Chorlog, Madison, Wis.; Frank E. Darling, Milwaukee; Curtis A. Evans, Milwaukee; J. Gregory Hoffman, Hartford, Wis.; Charles Wilford Hughes, Winneconne, Wis.; Paul E. M. Kersten, J. R. Longley, Fond du Lac, Wis.; Harry C. Mix, Green Bay, Wis.; George Senn, De Pere, Wis.; Adolph J. Shimek, Manitowoc, Wis.; Carl C. Vogel, Elroy, Wis.; Michael R. Wilkinson, Oconomowoc, Wis.; Thomas Willett, West Allis, Wis.; Vincent J. Irwin, Jr., Granby, Conn.; James D. McGaughey, Wallingford, Conn.; William P. Boardman, Boston; David E. Dolloff, Biddeford, Me.; Lew B. Hayden, Livermore Falls, Me.; Paul S. Hill, Biddeford, Me.; Harrison B. Webster, Castine, Me.; Roland A. Behrman, Boston; Nathaniel Pope Breed, Lynn, Mass.; Harry F. Byrnes, Springfield, Mass.; Frederick B. McAdy and Harold E. Carney, Boston; Arthur W. Carr, Bridgewater, Mass.; Robert C. Cochrane, Boston; Harold E. Eggers, Omaha, Neb.; Arthur B. Emmons, Dover, Mass.; Channing Frothingham, Jr., Boston; Frederick H. Howard, Williamstown, Mass.; William J. McDonald, Fowler, Colo.; Daniel F. Mahoney, Boston; Francis R. Mahoney, Lowell, Mass.; James H. Means, Boston; Leon S. Medalia, Boston; John Joseph Murphy, Chicago; Albert Pfeiffer, Lima, O.; Augustus Baxter Riley, Hartford, Ky.; David D. Scannell, Boston; Nathan P. Pulsifer, Lowell, Mass.; Austin F. Riggs, Stockbridge, Mass.; Edward B. Simmons, Worcester, Mass.; Ralph Rayburn Simmons, Columbia, Mo.; Pierre Norbert Bergeron, Philadelphia; James Stevenson Allen, Geneva, N. Y.; William H. Baughman, Conrad Berens, Jr., Attilio M. Caccini, Douglas W. Cairns, James L. Cobb, Edward M. Colie, Jr., Edmund McC. Connoly, William A. Dalton, Thomas K. Davis, Sumner Everingham, Linwood M. Gable, Joseph Girsdansky, Charles Gottlieb, Malcom McBurney, Bruce G. Phillips, Daniel Poil and Hugh A. Riley, New York; Edmund C. Boddy, John R. Booth, Lawrence J. Nacey, Edgar W. Phillips and James M. Flynn, Rochester, N. Y.; Henry M. Feinblatt and John F. Ranken, Brooklyn; Samuel A. Munford, Ithaca, N. Y.; Alfred H. Parson, Great Neck, N. Y.; Charles L. Redfield, Middletown, N. Y.; Nathaniel P. Brooks, Seattle, Wash.; Charles H. Holt, Pawtucket, R. I.; Ira H. Noyes and Harmon P. B. Jorden, Providence, R. I.; Norman R. Price, Marlintown, W. Va.; Irvin Hardy, Morgantown, W. Va.; Capt. Beth Vincent, Boston; Mont R. Reid, Baltimore; Edd L. Robertson, Belzoni, Miss.; Wilton H. Robinson, Pittsburgh; Lewis J. Rosenthal, Baltimore; Herbert De Grove Sherman, White Plains, N. Y.; C. L. Sherrill, Statesville, N. C.; Harry R. Slack, Jr., Baltimore; Marvin L. Smoot, Fayetteville, N. C.; Caleb W. Sommerville, Philadelphia; August A. Strasser, Arlington, N. J.; Maurice L. Townsend, Charlotte, N. C.; James W. Vernon, Morgantown, N. C.; Wm. L. Vroom, Ridgewood, N. J.; James P. Wall, Jackson, Miss.; James R. Wells, Stone Mountain, Ga.; William E. Whitson, Washington, D. C.; John E. Williams, Roselle Park N. J.; William E. Wilmerding, Selma, N. C.; Newton G. Wilson, Summerfield, N. C.

To FORT BENJAMIN HARRISON: Majors Lucius E. Burch, Nashville, Tenn.; Ernest E. Irons, Chicago; Harry N. Torrey, Grosse Point, Mich.; Eugene H. Pool, New York City; Udo J. Wile, Ann Arbor, Mich.; Capts. William F. Bernart and Lewis W. Bremerman, Chicago; Vernon C. David, Evanston, Ill.; Francis Deacon and Frank E. Pierce, Chicago; Hugo A. Freund, Detroit, Mich.; William H. Honor, Wyandotte, Mich.; George Waters, Memphis, Mich.; Zabdel B. Adams, Brookline, Mass.; Roger Kinnicutt, Worcester, Mass.; Abram S. Clark and Wm. P. J. Ruddy, New York City; Herbert W. Taylor, Brattleboro, Vt.; Lieuts. James A. Britton, Chicago; Andrew J. Butner, Harrisburg, Ill.; William Arthur Clark, Peter Selbie Clark, and Roy H. Cox, Chicago; John C. Dallenback, Champaign, Ill.; George De Tarnowsky, Erle F. Fisher, Thomas P. Foley and Arthur H. Geiger, Chicago; Ross W. Griswold, Litchfield, Ill.; James B. Hastings, Alton, Ill.; Otto A. Kreme, Joliet, Ill.; William R. Larkin, Lawrence H. Mayers, Edwin Morton Miller, George H. Musselman, Harry D. Orr, Lester J. Palmer and George N. Pratt, Chicago; Roswell T. Pettit, Ottawa, Ills.; Samuel H. Richman, Oak Forest, Ill.; William R. Robison, Chicago; Henry J. Ullmann, Highland Park, Ill.; George W. Woodnick, Chicago; Oliver O. Alexander, Terre Haute, Ind.; Zera M. Beaman, North Manchester, Ind.; Clinton G. Beckett, Attica, Ind.; James Duckworth, Indianapolis, Ind.; Baruch M. Edlavitch, Ft. Wayne, Ind.; Laurence E. Jewett, Wabash, Ind.; Maurice H. Krebs, Huntington, Ind.; Otho R. Lynch, Peru, Ind.; Jesse L. McElroy, Indianapolis, Ind.; Edgar H. Myers, South Bend, Ind.; Garland D. Scott, Sullivan, Ind.; John P. Shomer, Peru, Ind.; John M. Titus, Hebron, Ind.; Warren L. Babcock, Detroit, Mich.; Adolph E. Dreyer, Detroit, Mich.; William Curtis Gibson, Suffolk, Va.; Harry H. Hammel, Ann Arbor, Mich.; Marinus L. Holm, Lansing, Mich.; Harry M. Malejan, Ann Arbor, Mich.; Charles H. Merrill, Detroit, Mich.; Norman Murphy, Bangor, Mich.; Dean W. Myers, Ann Arbor, Mich.; Don H. Silsby, St. Johns, Mich.; Charles L. Washburne, Ann Arbor, Mich.; Charles A. Bowers, Cleveland; Townsend H. Dickinson, Germantown, O.; Forrest M. Evans, Balboa, Canal Zone; Alfred G. Farmer, Athens, O.; Michael R. Haley, Piqua, O.; Burt Hibbard, Lima, O.; Elmer A. Klein, Norwood, O.; Charles H. MacFarland, Jr., Cleveland; Orville T. Manley, Warren, O.; Clarence F. Murbach, Archbold, O.; Joseph C. Placak, Cleveland; Goodrich B.

Rhodes, Cincinnati; LeRoy B. Sherry, Cleveland; Harry R. Wahl, Cleveland, and Glenford Bellis, Wauwatosa, Wis.

MISCELLANEOUS ORDERS: Capt. Arthur A. Finch, M. R. C., Astoria, Ore., to Fort Stevens. First Lieut. William J. Topmoeller, M. R. C., Cincinnati, to report to Col. Lansing H. Beach for examination of reserve corps recruits. First Lieut. Charles W. Woodall, M. R. C., Schenectady, N. Y., to the Plattsburg Barracks. First Lieut. John C. Murphy, M. R. C., Hinesburg, Vt., to Ft. Ethan Allen. First Lieut. George R. Harris, M. R. C., Pittsburgh, to Fort Niagara. First Lieut. Joseph V. Klauder, M. R. C., Philadelphia, to home. First Lieut. J. David M. Roberts, M. R. C., New Richmond, O., to home. Capt. George A. Evans, M. R. C., and First Lieut. Fred D. Fairchild, M. R. C., George K. Herzog, M. R. C., William J. Lewis, M. R. C., and Benjamin Jablons of M. R. C., San Francisco, for active duty at San Francisco.

First Lieut. Harry C. Blair, Soldiers' Home, Washington, D. C., to report by telegraph to the commanding general of the southeastern department; First Lieut. George C. Ruhland, Milwaukee, report by telegraph to the commanding general of the central department.

A Special Committee Appointed to Investigate Health Conditions in the Navy

Secretary Josephus Daniels of the Navy on June 1 appointed a special committee to investigate conditions aboard naval vessels and in naval recruiting camps ashore, and to report their findings for the information of the public. The committee consists of Dr. William H. Welch, Baltimore; Dr. Abram Flexner and Nathan Straus. The committee will make a thorough investigation beginning with the hospital ship "Solace" and the Atlantic fleet.

Tuberculosis and War

Dr. Herman M. Biggs of the New York State Department of Health, in the *Survey*, May 5, 1917, discusses tuberculosis in France as influenced by war conditions. While practically all epidemic diseases which have heretofore been scourges of armies in the field have been brought under control in the present war, tuberculosis has assumed a large part in the sanitary history of the present struggle. France is the country that has been hard hit in this respect, though Biggs says that from such data as are obtainable Austria, Hungary, Russia, and perhaps to a less extent, Germany, have likewise suffered. As contrasted with England with 1 death from tuberculosis per thousand, New York State with 1.5, France before the war had 3 deaths per thousand, and in many cities the rate was higher. Biggs attributes this largely to the fact that even before the war France paid little systematic attention to tuberculosis. It had not been recognized by the sanitary authorities, and even now is not a notifiable disease. With the advent of the war and the rapid mobilization of the troops, with examinations which were not sufficiently rigid, and with the strenuous conditions imposed on troops in the field, latent or arrested tuberculosis manifested itself among the troops and by the end of December, 1915, 86,000 soldiers had been returned to their homes with active tuberculosis. In February, 1917, it was estimated that 150,000 had been returned for this cause. Biggs believes that in addition 3 or 4 per cent. of the population who formerly lived in the departments now in German occupation have the disease, which would mean another 125,000, based on a population of 4,250,000. Half of these live back of the German lines, partly in their own homes, partly in concentration camps and partly deported into Germany, many of whom have been returned on account of illness which made them a burden to their captors. Biggs says that while he was in Switzerland, of 20,000 of these people returned, 5,000 were said to have tuberculosis, though the estimated infection among those deported into Germany has been placed at 5 or 6 per cent., which Biggs believes is conservative. Among the 350,000 or 400,000 French prisoners in Germany an estimate of 5 or 6 per cent. of tuberculous infection has been made, although some French estimates run as high as 30 or 40 per cent. Among the four million men in the active French army at present it is estimated that ½ to 1 per cent. have tuberculosis. It is not believed that the cases of tuberculosis among the civil population has decreased since the war, and in the remaining 30,000,000 not accounted for in the foregoing figures, on a conservative estimate, taking as a basis the prevalence of the disease before the war, there would be at least 150,000 cases, making in all about 500,000 cases, or, say, 400,000, to be extremely conservative, to be dealt with if the war were terminated at once. To deal with this vast number of cases Biggs says there are at present the so-called sanitary stations with 11,000 beds, which number it is hoped to increase to 16,000 by the end of the war, and a dozen or so well equipped dispensaries. There are practically no trained nurses or social service workers, but a few women are being trained in a three months' course in the Laennec Hospital. Not more than a dozen physicians are said to have given any special attention to tuberculosis, few have had sanatorium experience and still fewer who are at all familiar with the tuberculosis work of others. The outlook, Biggs feels, is not encouraging, though the French government has partially realized the situation and is trying to meet the problem by the organization of dispensaries in the populous regions of France.

Senate Committee Hearing on Salvarsan Legislation

The Committee on Patents of the United States Senate gave a hearing on June 4, on the several bills now pending in Congress, looking toward the abrogation or suspension of the patients controlling the manufacture of salvarsan, or the assumption of ownership or trusteeship by the government. The case against the salvarsan patents was stated by Dr. George Walker, J. M. T. Finney and Theodore C. Janeway of Johns Hopkins Hospital, Baltimore, and Dr. Victor C. Vaughan of the University of Michigan, Ann Arbor, Mich. Mr. Herman Metz, New York, who has been supposed to be operating in this country under an assignment or a license from the owners of the German patents, presented his side of the case.

The arguments presented in the support of legislation proposed for the purpose of procuring for the United States a sufficient supply of salvarsan at a reasonable price were in substance those with which physicians are familiar; namely, that the existing patents enable the owners to extort from the American public an unconscionable profit for an absolutely necessary drug under penalty of suffering in the present generation and in generations to come from the suffering and disability incident to syphilis. It was pointed out, too, that there had at times been a grave shortage of the drug in this country, and that American manufacturers who might have relieved the situation had been deterred from doing so by the fear of expensive litigation based on alleged infringement of the German patents, with the possibility of having to pay large royalties should suits of this character be determined against them.

In defense of the course followed by the owners of the German patents and of his own course, Mr. Metz said that the only increase in the price of salvarsan had been based on the increased cost of obtaining the supply necessary for the United States, due to disturbed labor conditions in Europe, increased cost of transportation from Germany to this country, increased insurance rates, etc. There had been no increase based on the scarcity of salvarsan in America. That he had stopped selling to jobbers of the drug and had sold only to physicians and hospitals, but he had done this in order to prevent the supply intended for the United States from being dissipated by exportation by jobbers to other countries. He alleged that some physicians—he expressly stated that he did not claim that they were reputable physicians—had bought salvarsan as a speculation, for resale, and that the increased prices at which such resales were effected had tended to give the impression that the manufacturers and the legitimate vendors of the drug were taking advantage of the shortage to extort unjust prices. Such resales had made possible the flooding of the market with supurious salvarsan by vendors.

Canadian and French preparations had been available as substitutes for the trademarked salvarsan, and Schamberg's article had been on the market, so that the shortage of the preparation was apparent rather than real. Metz himself had agreed not to institute suit against Schamberg for infringement of the German patent, and had as a matter of fact himself purchased from Schamberg when he had been unable to obtain the necessary supply from Germany. For salvarsan obtained in Germany, Metz claimed to have paid 5 marks per ampule. This was for the unlabeled ampules. To this price there should be added, to determine the cost of the drug to him, the cost of transportation from Germany, insurance, 30 per cent. duty, testing of ampules for breakage in transit, losses due to breakage, labeling, packing, advertising, distribution and overhead charges. He had been at some expense, too, he said, in his efforts to detect and to prevent the sale of spurious salvarsan, some of which was absolutely

inert and which was liable to constitute a real danger to the patient. If the finished ampule can be produced for from 50 to 60 cents each, Metz thought that the price to the jobber should be $1.50, the difference between the net cost of the finished ampule and the price to the jobber covering all overhead charges and all profit to the manufacturer. The jobber ought to sell at not to exceed $2 per ampule. For such salvarsan as he has bought from Schamberg, Metz has paid $1.50 per ampule at the Philadelphia office and has had the expense of labeling and of packing to pay in addition. This he has sold at retail for $2.50 per ampule, and to the government at net cost, $1.50. Mr. Metz has erected a laboratory in Brooklyn for the manufacture of salvarsan, which, he said, in about thirty days will be able to put on the market any quantity of salvarsan that may be needed. He has offered to turn this factory over to the government, or to supply the government at cost all salvarsan necessary for the army and navy.

It was developed during the course of Mr. Metz' testimony that until recently his relations with the German manufacturers of salvarsan had been simply those of an exclusive distributing agent in the United States. Such salvarsan as he needed for the American trade he bought and paid for, and he made his profit out of sales. He was not a licensee of the German owners of the patents, nor an assignee of the American patent rights. When difficulty arose in obtaining the necessary supply in America, he sought to obtain an assignment of the American patent rights, but having failed to do so he sent his brother to Germany to see what could be done. His brother was given free access to the factory and allowed to learn the method of manufacture, but when it came to bringing to the United States either an assignment of the patent rights or even a written license to manufacture, he was unable to do so, because he could get no writing of any kind through the British lines. On his return to the United States he executed an affidavit in which he set forth the fact that he had been permitted access to the factory and that he had been given the right to manufacture salvarsan in this country. This license was not limited to the period of the war, but was for all time. This was the only evidence that Metz had of his right to manufacture salvarsan, and was offered in evidence. For the right to manufacture, absolutely no consideration of any kind was given, according to Metz, the German manufacturers simply being desirous that the people of the United States should have the benefit of the drug. This was over a year ago. There was no legal obligation on Metz' part to pay royalties, and any such payment would be only because of a moral obligation. No agreement as to the amount of royalties was in force.

Senator James suggested that if Metz was the donor of the license rights to manufacture and sell salvarsan in the United States because the German owners of the patents wanted the American people to have the benefit of the remedy, then he was substantially merely the trustee of such rights for the public and should have no objection to the government manufacturing the drug. Senator Knox suggested that if he had paid nothing for such rights as he professes to own it might be difficult to find any substantial damage to him if his rights were infringed by any one whomsoever. The AMERICAN MEDICAL ASSOCIATION was criticized by Mr. Metz for its activity against the salvarsan monopoly in the United States. Senator Knox inquired whether the ASSOCIATION was not well within its moral obligations in such action, to which Metz assented.

Mr. Metz saw no objection to the United States government taking over the patents on salvarsan for the period of the war and licensing qualified persons and corporations to manufacture it on fair conditions, as proposed in the Adamson bill, recently introduced into the House of Representatives, but he objected to the propaganda that had been maintained against salvarsan alone. He conceded the right of the government to take over absolutely any patent, or to abrogate it. He was in sympathy, too, with legislation restricting the right to patent drugs necessary for the health of the people.

Mr. Metz finally emphasized the distinction between the patents covering the manufacture of the substance known as salvarsan and the trademarked name of that substance, and the distinction was further made clear by his attorney, and it was stated that however willing the owners of the salvarsan patents might be for the government to take over the patents they must insist that the product be not put out under the trademarked name, except such as came from the owners of the trademark and those licensed by such owners.

The committee adjourned without taking action.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Resolutions Regarding Phillip Mills Jones.—At the forty-sixth annual meeting of the Medical Society of the State of California resolutions were adopted setting forth the loss suffered by the society in the death of its secretary, Dr. Phillip Mills Jones, to whose efforts and work, more than to that of others, the sound reorganization of the society is said to have been especially due.

Personal.—Dr. Arthur A. O'Neill, medical superintendent of the San Francisco Isolation Hospital, has been appointed city physician to succeed Dr. Nathan Rosencrantz, deceased. Dr. Raleigh W. Burlingame has been appointed his successor.——Dr. Walter P. Miller, Fresno, fractured his arm recently while cranking his automobile.——Dr. David E. Stafford, for several years physician to the coroner's office of San Francisco County, has resigned to resume the practice of medicine and has been succeeded by Dr. John R. Clark.

Donation of Tethelin.—Dr. T. Brailsford Robertson, professor of biochemistry and pharmacology in the University of California, has donated to the regents of the University his patents for the growth-controlling substance, tethelin, which he has succeeded in isolating from the anterior lobe of the pituitary body. The proceeds which may accrue from the sale or lease of these patents are to constitute a fund which will be entitled "The University of California Foundation for International Medical Research," and which will be expended in the furtherance of medical research, preferably research in the physiology, chemistry, and pathology of growth.

COLORADO

Changes Location.—Dr. J. Sherwood Jacoby, Platteville, has been appointed surgeon in charge of the Empire Zinc Company at Gilman.

Base Hospital Organized.—The University Hospital, Boulder, with all its facilities and staff, is to be offered to the United States, as a base hospital.

Prohibits Division of Fees.—A law recently enacted prohibits the division of fees by physicians, surgeons, chiropractors, midwives and chiropodists, or the payment of compensation by any such practitioners for the procuring of patients. For so doing the law provides as a penalty a fine of from $25 to $250 or imprisonment not to exceed thirty days, or both fine and imprisonment.

ILLINOIS

Inspection of Naval Training Station.—On account of rumors regarding the sanitary conditions at the Naval Training Station, Great Lakes, Dr. Frank Billings, chairman of the Illinois State Council for Defense, made an inspection of the station, May 30. He made a thorough inspection of buildings, both old and new, examined the official statistics and conversed with officers and men. Less than one half of 1 per cent. of the sailors that have passed through the station have been affected with meningitis and there has been no case of typhoid fever in the camp.

Public Health and Welfare Association.—The Illinois Public Health and Welfare Association is an outgrowth of the Better Community Conference, held at the University of Illinois, in June last. Its purpose is to convey a medium for stimulating and correlating the work of all agencies and individuals, directly or indirectly interested in the public health and welfare, including the state department of health, local health departments, the tuberculosis societies, charity organizations, health officers and other public officials, physicians, engineers, lawyers, biologists, chemists, publicists, social workers and community and public health nurses. The association will cooperate closely with the state department of health, in the conduct of schools for health officers.

Chicago

Addition to Post-Graduate School.—The Post-Graduate Medical School, plans to erect two additions to its present buildings, at a cost of more than $125,000. The buildings are

to be a six story addition to the present hospital and a two or three story addition to the nurses' home.

Appropriation for State Hospitals.—In response to an appeal from Health Commissioner Robertson, the city council finance committee has appropriated $10,000 additional to municipal hospitals for the care of sufferers from contagious diseases. This appropriation is sufficient for the maintenance of the hospitals until the end of July only.

Chicago Unit Leaves Germany.—The Chicago unit of the American Physicians' Expedition, which has been stationed for the last year at Graudenz, left Berlin, June 2, for Christiana, on its return to America. Dr. Frederick Hagler, St. Louis, is director of the unit. The unit was financed by the German-Austro-Hungarian Relief Committee, and having finished its work, donated the remainder of its equipment, brought from the United States to the hospital at Graudenz.

KENTUCKY

Infirmary for War Hospital.—At the direction of the board of trustees of the Norton Memorial Infirmary, Louisville, Dr. Lewis S. McMurty, has tendered the government the use of the institution as a base hospital during the period of the war.

MARYLAND

Alumni Meeting.—At the annual meeting of the General Alumni Association of the University of Maryland, held May 31, in Baltimore, Dr. Albert H. Carroll, Baltimore, was elected president. The medical alumni officers elected were: president, Dr. James M. H. Rowland, Baltimore; vice presidents, Dr. William F. Lockwood, Baltimore; Dr. Thomas H. Brayshaw, Glenburnie, Md.; secretary and treasurer, Dr. Edward A. Leuper; recording secretary, Dr. George M. Settle, Baltimore, and corresponding secretary, Dr. Samuel J. Fort, Catonsville, Md.

Hygienists Meet.—The annual meeting of the Maryland Society of Social Hygiene, cooperating with the Public Instruction Committee of the Medical and Chirurgical Faculty, was held in Osler Hall, Baltimore, May 29. There were two sessions: one in the afternoon at which Dr. Emil Novak, Baltimore, presided, and the evening session, when Judge Morris A. Soper presided. Among the speakers was Dr. William C. Rucker, assistant surgeon general, United States Public Health Service, the title of whose paper was "Social Hygiene Program for the Army and Navy During the War."

MICHIGAN

Battle Creek Unit Formed.—American Red Cross Ambulance Corps No. 11 has been organized in Battle Creek, Mich., with Dr. James T. Case as captain. The other officers are: Drs. J. H. Ross, Carl G. Wencke, Willard N. Putnam and Asa C. McCurdy. The organization has been designed for immediate enlistment in the United States Army Ambulance Corps. Two of the male nurses who were graduated, May 29, by the Battle Creek Sanitarium Training School for Nurses have enlisted in the company. Of the fifty who received diplomas at this commencement, seven were men.

NEW JERSEY

State Physicians to Meet.—The one hundred and fifty-first annual meeting of the Medical Society of New Jersey will be held in Atlantic City, June 11 to 13, under the presidency of Dr. Philip Marvel, Atlantic City.

Associated Physicians Meet.—At the annual meeting of the Associated Physicians of Montclair and vicinity, May 28, the following officers were elected: president, Dr. Richard Cole Newton, Montclair; vice president, Dr. Leslie C. Love, Montclair; secretary, Dr. Browne Morgan, Bloomfield; treasurer, Dr. Robert F. Ringland, Montclair, and historian, Dr. Henry Wallace, Glen Ridge.

Personal.—Dr. Richard E. Knapp, Hackensack, while driving his automobile over a grade crossing of the New York and New Jersey Railroad, was struck by a train and seriously injured.——The fiftieth anniversary of the entrance into the practice of medicine of Dr. George R. Kent, Newark, was celebrated, May 7, when he was the guest of honor at a dinner, given by the Practitioners' Club, at which he was presented with an illuminated autograph testimonial.

NEW YORK

Special Appeal for Medical Reserve Corps.—As a result of a stirring appeal by Col. Theodore Roosevelt and Major Robert E. Noble of the Medical Corps, U. S. Army, and Col. T. H. Goodwin of the British Royal Army Medical Corps, recently made at the Yale Club, New York, 174 physicians applied for enlistment as officers in the Medical Reserve Corps.

Special Arrangement for Care of Rejected Recruits.—The Council on Medical Defense Committee of Kings County, N. Y., has arranged to supply medical treatment for recruits rejected by Army, Navy or Marine Corps service. The recruit is supplied with a blank referring him to recognized institutions and in these institutions will be given aid according to his defect so as to make him eligible for service.

New York City

Supply of Salvarsan.—Resolutions on the shortage of salvarsan similar to those adopted by other medical societies were recently adopted by the Public Health Committee of the New York Academy of Medicine and forwarded to Congress.

Measles Epidemic.—This city is experiencing an epidemic of measles. The epidemic made itself felt in the week ending March 24, when the weekly total of cases reported jumped from 389 to 898. Every week, excepting one, since that time has showed over one thousand cases. It is stated that the German measles are also more prevalent than usual.

Spanish Physicians Hold Meeting.—The Spanish-speaking physicians of New York City have formed an organization, known as the Sociedad Medica Hispano-Americana. Dr. Antonio M. Crispin was elected temporary president and Drs. Anibal Zélaya and M. Uribe Troncoso were elected secretaries of the society.

Paratyphoid Vaccine.—The department of health announces that it is ready to supply paratyphoid vaccine, containing 500 million paratyphoid bacilli, Type A, and 500 million paratyphoid bacilli, Type B, per cubic centimeter. For the present it is advised that the dose for the paratyphoid vaccines for the average adult shall be the same as that for typhoid vaccine. Physicians are requested to assist the department in determining a standard dose by reporting the type of vaccine, dosage employed, and the extent, character and incidence of whatever local reaction or general reactions follow the use of the vaccine.

Faculty Changes.—The board of trustees of the Long Island College Hospital announce the appointment of Dr. James C. Egbert, director of extension teaching, Columbia University, as president of the medical college; Dr. Otto von Huffman has been appointed dean; Dr. Wade W. Oliver, formerly of the University of Cincinnati, has been called to the chair of bacteriology, and Dr. Carl H. Laws, formerly of the department of pediatrics in the University of Michigan, has been appointed professor of pediatrics.

Health Department Cooperates with Recruiting Officers.—The health department has made arrangements with recruiting offices whereby men suffering from tuberculosis will be referred to the tuberculosis clinics of the department. An invitation has also been extended to the recruiting officers who may desire to avail themselves of the services of the department clinics to have the clinics examine and observe intending recruits in order to assist in the diagnosis of questionable cases.

To End Milk Charity.—Mr. Nathan Straus has issued a statement in which he announces his intention of giving up the park milk stations which he has been supporting. He will, however, continue them during the coming summer. This work has cost him more than a million dollars. His reason for giving up this philanthropy, it is reported, is not alone the cost, but because of the lack of cooperation and even the hindrance he has encountered from interference on the part of the park commissioner.

Court Decision Favors Health Department.—The New York Disposal Corporation, which operates the garbage plant on Barren Island, was convicted in the court of special sessions, borough of Brooklyn, May 14, 1917, of a violation of the sanitary code which prohibits the escape and discharge of offensive or noisome odors from any building, vessel, or place in the city of New York, and fined $100. The action in this instance was instituted by the department of health as a result of complaints of citizens residing in the borough of Queens, supplemented by evidence obtained by inspectors of the department of health. This is the first successful prosecution of the operator of the garbage plant on Barren Island.

Committee on Amelioration of Hardships of the Families of Physicians Called into National Service.—A joint com-

mittee of New York Academy of Medicine and Medical Society of the County of New York has been formed for the purpose of collecting and administering funds for the support and care of wives and families of medical men who may require financial aid as the result of the head of the family being called into the service of the country. This fund was started by Dr. Edwin B. Cragin with $10,000, by Dr. John F. Erdman with $5,000 and by Dr. Seth M. Millican with $1,000. The officers of the joint committee are: chairman, Dr. Walter B. James; secretary, Dr. Edward L. Hunt; treasurer, Dr. J. Bentley Squier.

Personal.—Dr. Alexander Lambert has accepted the position of medical adviser to the War Relief Commission of the Red Cross in France and Belgium. He will leave shortly for France.——Dr. Hideyo Noguchi is reported to be ill with typhoid fever.——Dr. Katherine Arends was seriously injured in a struggle with a burglar on the evening of May 20, and is being cared for in Mount Sinai Hospital.——Dr. Cornelius G. Coakley was injured when a horse which he was riding fell.——Dr. Marcus B. Heyman, who has been assistant superintendent of the State Hospital for the Insane at Central Islip, L. I., has been appointed superintendent of the Hospital for the Insane on Ward's Island.——Dr. Thomas Addis Emmet had the degree of Doctor of Literature conferred on him by the Catholic University in Washington, D. C. As Dr. Emmet, who is 89 years old, was unable to go to Washington, Dr. Thomas J. Shahan, the rector of the university, came to Dr. Emmet's home in this city to confer the degree.

Conference of Charities and Corrections.—The Eighth Annual New York City Conference of Charities and Corrections was held in this city, May 22, 23 and 24, 1917, under the presidency of Mr. Leopold Plaut. The subjects considered were "Families," "Wages," "Public and Private Relief Work," "Publicity and Administrative Methods," "Education and Recreation," "Delinquency," "Children." The meeting on public health was held in the New York Academy of Medicine under the chairmanship of Dr. S. Adolphus Knopf. At this session Dr. Josephine S. Baker read a paper on "Constructive Suggestions Toward the Control of the Most Important Infectious Diseases of Child Life," and Dr. Ira S. Wile read a paper on "Constructive Suggestions Toward the Control of the Most Important Infectious Diseases of Adult Life." Dr. Knopf reported for the committee on Public Health of the conference and submitted a proposition that the government establish farm colonies for the men who have been rejected from military duty because of slight tuberculosis. Such colonies, he contended, would not only enable them to so work that they would be of service to the nation, but would so improve their physical condition that eventually they might become fit for military duty.

OHIO

Personal.—Dr. Henry Baldwin, Jr., has announced that he will resign as superintendent of the District Tuberculosis Hospital, Springfield, to take effect, July 1.——Drs. James F. Baldwin and Robert B. Drury, have been appointed members of a commission to investigate vice conditions in Columbus.

Tuberculosis Institutions.—An appropriation of $30,000, for the maintenance of the district tuberculosis hospital, was made, May 9, at a joint meeting of the commissioners of Allen, Van Wert, Shelby, Mercer and Auglaize counties and the trustees of the hospital.——Ground has been broken for a new nurses' home and building for patients at the Warrensville Tuberculosis Sanatorium.

State Society Meeting.—At the seventy-second annual meeting of the Ohio State Medical Association, held in Springfield, May 14 to 16, under the presidency of Dr. Harmon B. Gibbon, Tiffin, the following officers were elected: president, Dr. James F. Baldwin, Columbus; delegates to the American Medical Association, Drs. Alonzo B. Walker, Canton; Herbert C. Haning, Dayton, and John H. J. Upham, Columbus, and alternates, Drs. Lorenzo D. Allard, Portsmouth; E. W. Morgan, Akron, and Robert C. M. Lewis, Marion. The following reelections were: member of committee on medical defense, Dr. Charles T. Souther, Cincinnati, and councilors, second district, Dr. John E. Hunter, Greenville; fourth district, Dr. Charles W. Moots, Toledo; sixth district, Dr. Edgar J. March, Canton; eighth district, Dr. Albert B. Headley, Cambridge, and tenth district, Dr. Wells Teachnor, Columbus. The selection of a meeting place for 1918 was not decided.

Committee on Research.—The university senate of Western Reserve University, Cleveland, has voted to establish a committee on research to be affiliated with the national research board. The committee is composed of Dr. George N. Stewart, chairman, School of Medicine; Dr. Torald Sollmann, vice chairman, School of Medicine; Prof. H. P. Cushing, secretary, Adelbert College; Prof. H. W. Springsteen, Adelbert College; Prof. F. H. Herrick, Adelbert College; Prof. O. F. Tower, Adelbert College; Prof. H. A. Aikins, College for Women, and Prof. Edward Spease, School of Pharmacy.

Military and Naval Items.—Orders have been issued to recruit the Second Ohio Field Hospital, commanded by Major Harry H. Snively, and the Second Ambulance Company, commanded by Capt. Dudley T. Dawson, both of Columbus, to a strength of 150 each.——Drs. Michael P. Motto, Thomas E. Jones and William J. Manning, Cleveland, have been appointed a board for the physical examination of applicants in the Ohio Naval Militia and the National Naval Volunteers. ——The Third Motor Ambulance Company, Ohio N. G., is being recruited at Cincinnati, and will be commanded by Capt. James Bentley.

Western Reserve University Items.—John H. Lowman, professor of clinical medicine and medical ethics, has been appointed a member of the advisory council of the Edward L. Trudeau foundation for research and teaching in tuberculosis.——Dr. L. W. Ladd, associate professor of clinical microscopy, has been appointed visiting physician to Charity Hospital.——The new building of the Dental School is nearing completion and will be occupied in the fall of 1917. The building is situated alongside the university campus and near the site for the new medical school plant. The dental school, formerly affiliated, is now an integral department of the university. An extensive revision of the curriculum and an increase in entrance requirements are contemplated.—— Dr Samuel E. Chiu, recent graduate of the school, is now director of the department of dermatology, ophthalmology and Wassermann laboratory of the Eden Dispensary, F 129, Bubbling Well Rd., Shanghai, China, and reports that he is organizing a modern hospital in Shanghai with nursing and medical schools.

PENNSYLVANIA

Philadelphia

Personal.—Dr. Jay Schamberg addressed the graduates of the Philadelphia Polyclinic Training School of Nurses at the annual commencement held in the New Century Club, May 31. ——Dr. Nathaniel Ginsburg addressed the graduating class of the Jewish Hospital Nurses' Training School at the annual commencement, May 29.——Dr. Alonzo E. Taylor, professor of physiologic chemistry in the University Medical School, was recently called before the committee of the house to give expert testimony on the subject of food production and conservation.

Alumni Meetings.—The Alumni Association of the Jefferson Medical College held the annual banquet at the Bellevue-Stratford Hotel, June 1. Among the speakers were the Hon. William Potter, president of the board of trustees; Dr. Hobart A. Hare, Mr. E. J. Cattell, city statistician, and Dr. George D. Porter of Bridgeport, Conn. The following officers were elected: president, Dr. Chevalier Jackson; vice presidents, Drs. P. Brooke Bland, Henry E. Gaskill, E. J. G. Beardsley and William S. Higbee; recording secretary, Dr. H. K. Mohler; corresponding secretary, Dr. E. H. Funk, and treasurer, Dr. Warren B. Davis.——The Alumnae Association of the Women's Medical College of Pennsylvania held their annual business and scientific meetings at the college, June 7 and 8. The president's address was delivered by Dr. Frances Van Gasken. At the scientific meeting the speakers were Dr. Cora Walker E. Kenzie and Dr. Gertrude Walker. In the evening the speakers included Mr. William H. Slayton, executive secretary of the Navy League, and Dr. Rosalie A. Morton. On Friday, at the scientific section, Dr. Margaret F. Butler, Miss Katherine B. Davis, and at the afternoon session, Drs. Theodore LeBoutillier, Annie M. Freese and Bertha M. Meine spoke.

CANADA

Hospital News.—Mr. J. L. Englehart, chairman of the Northern Railway Comission, has donated $10,000 for the purpose of adding a maternity annex to the Englehart Hospital, Petrolia, Ont., which was formerly his private residence.

Canadian Women's Gift for War Hospital Extension.—The women of Canada raised $200,000 for a hospital ship, but decided finally to devote it to something more permanent, and

it was presented to erect a new wing for the great Royal Naval Hospital at Haslar, England. The new quarters were opened recently by the queen with much ceremony.

Society News.—The annual meeting of the Canadian Public Health Association and the Canadian Association for the Prevention of Tuberculosis will be held in Ottawa, Canada, during the fourth week in September. The Association for the Care of the Feeble-Minded will meet in Ottawa the same week; also the Canadian Conference of Public Welfare and the Canadian Conference of Charities and Corrections.

Personal.—Capt. Harry J. Watson, Winnipeg, is in Toronto for a short leave of absence from Bramshott, England.——Lieut.-Col. Graham Chambers, Toronto, has recovered from a severe illness and will shortly resume his medical duties.——Dr. George R. McDonagh, Toronto, has returned from California, but is confined to his residence on account of a very severe illness.——Dr. J. Harvey Todd, Toronto, who has been home from France, was returning, but has been detained in Quebec City.

Ontario Medical Commission.—Dr. William Goldie, Toronto, and Dr. Charles K. Clarke, superintendent of the Toronto General Hospital, appeared before the commissioner last week. The former detailed the splendid work in different forms of manipulative treatment as carried out at the Hospital for Sick Children, Toronto. Dr. Clarke, who is also dean of the Medical Faculty of the University of Toronto, spoke of further development of educating students in the university in electrotherapeutics and hydrotherapy.

Ontario Medical Association.—At the annual meeting of the Ontario Medical Association, held in Toronto, May 30 to June 1, there was an attendance of about 400 medical men from that province, as well as several invited guests from the United States and Quebec. Dr. Henry A. Christian's (Boston) address in medicine on the treatment of nephritis was very much appreciated and attracted a large gathering. Dr. Walter W. Chipman, Montreal, gave the address in gynecology, the subject being the prolapse of the uterus. A very interesting and animated discussion took place on the venereal disease peril through returned infected soldiers. The consensus of opinion appeared to be that the dominion and provincial governments should cooperate with the medical profession so far as possible in eradicating the spread of the diseases to the civic population. Drastic action was necessary immediately, especially to protect the feebleminded from contamination. The government should assume the responsibility of making blood tests in such cases, and inaugurate a policy of placing a ban on the importation of remedies made in Germany and used to a very large extent in cases of this kind. A special committee was appointed to prepare a report to submit to a special meeting of the executive of the association at the call of the chairman. The following officers were elected for the ensuing year: Dr. John P. Morton, Hamilton, president; vice presidents, Drs. George S. Cameron, Peterborough; John Ferguson, Toronto; John M. Rogers, Ingersoll, and J. Fenton Argue, Ottawa; general secretary, F. Arnold Clarkson, Toronto (reelected); assistant secretary, Frederick C. Harrison, Toronto (reelected); treasurer, Dr. Jabez H. Elliott, Toronto (reelected). The next meeting will take place in Hamilton, Ont., in 1918. All members were charged an annual fee of $2, and the former financial arrangements with the Canadian Medical Association where an annual fee of $5 paid for both associations will be abandoned; the financial relations of the two associations will henceforth be entirely separate.

Ontario Health Officers Meet.—Dr. Herbert W. Hill, medical officer of health, London, Ont., was elected president of the Ontario Health Officers' Association at their annual meeting in Toronto, May 28 and 29. Prof. Charles E. A. Winslow was present from Yale Medical School, and said that every American had been thrilled at the heroism displayed by the Canadian volunteer soldiers at Vimy Ridge. His address was on the subject of "Safeguarding the Health of Infants and Young Children." He hoped that American sons would be worthy to stand by Canadian sons, when the former were prepared to take the field. The loss of so many young men on the battlefields of Europe warranted drastic action in reducing infantile mortality as far as possible. He disagreed with the idea of closing down schools indefinitely when an epidemic of some particular disease made itself manifest among them. The children should be kept at school and kept under the close supervision of the school doctors and nurses. Poverty and ignorance were the twin causes for a large percentage of the infant mortality in Canada and the United States. Dr. Adam H. Wright, chairman of the Ontario Board of Health, felt that no munition worker should be called on to work more than eight hours a day. He had visited a number of factories in Ontario and found the bulk of the employers had exercised unusual care in safeguarding the health of their employees. In one institution in Toronto he found a "first-aid" hospital with nine nurses in charge. He declared that women workers would injure their health if they worked over eight hours a day. The new provincial secretary, Hon. William D. McPherson, welcomed the delegates, and said that he recognized to the full the magnificent work which the medical officers of health did in Ontario for the health of the people of the province.

GENERAL

The Control of Syphilis.—At Cincinnati, on May 23 and 24, the American Association on the Control of Syphilis was organized with a charter membership of twenty-nine. The objects of the association are the promulgation among medical men, medical institutions, boards of health, hospital boards, dispensary attendants and boards and other organizations of knowledge of syphilis. It is expected that the association will develop the importance of the social and economic sides of this question; will collect standardized statistics from institutions now treating syphilis; will further the establishment of free clinics and dispensaries in the diagnosis and treatment of the disease, and will encourage the more comprehensive teaching of syphilis in medical schools. The following officers were elected: president, Dr. Martin F. Engman, St. Louis; vice president, Dr. Jay F. Schamberg, Philadelphia, and secretary-treasurer, Dr. Harry E. Kleinschmidt, St. Louis.

New Pediatric Officers.—At the twenty-ninth annual meeting of the American Pediatric Society, held at White Sulphur Springs, W. Va., May 28 to 30, the following officers were elected: president, Dr. Linnaeus E. LaFetra, New York; vice president, Dr. Harvey M. McClanahan, Omaha; secretary, Dr. Howard C. Carpenter, Philadelphia; treasurer, Dr. Charles H. Dunn, Boston, and recorder and editor, Dr. Oscar M. Schloss, New York. The next meeting of the society is to be held in Lenox, Mass.

FOREIGN

Deaths in the Profession Abroad.—O. Gelpke of Zurich, a volunteer medical officer during the Franco-Prussian War, and during the years of warfare between the Dutch and the natives of the island of Sumatra. He was author of works on beriberi and on Indian plants that he thought might be useful in therapeutics. He thus introduced simaruba, pomegranate and other astringent drugs.——**A. Salomoni,** professor of surgery at the University of Messina and author of works on topographic anatomy and surgery, aged 63. He has been recently in charge of a military hospital at Piacenza. At the time of the Messina earthquake his superhuman efforts day and night saved the lives of hundreds.——**J. E. Squire** of London, a pioneer and authority on hygienic management of tuberculosis, aged 62.——**T. B. Brumsted,** Cambridge, a noted oarsman in youth, aged 94.——Lieut.-Col. **J. A. Nelis,** Dublin, retired, aged 62.——**H. R. Hutton,** lecturer on diseases of children at the University of Manchester until his retirement, and president of the Pathological Society at one time.

Red Cross Hospital Opened.—President Poincaré, formally opened the American Red Cross Hospital, Paris, May 31. In the course of the ceremonies the president conferred the decoration of the Legion of Honor on Dr. Joseph A. Blake, New York, organizer of the hospital.

Personal.—Drs. Burris A. Jenkins, Kansas City, and M. S. Rice, Detroit, have arrived in Paris, where they will undertake special work under the British Y. M. C. A.——Surg. Holton C. Curl, U. S. Navy, is the medical member of the United States Commission to Russia, which has just reached Tokio.

Casualties in the English Army Medical Corps.—The following are listed in the latest British exchanges as killed in action or died on service: Major **C. Ryley;** Lieut.-Col. **F. A. Symons,** aged 48; Major **A. H. Palmer,** aged 47; Capt. **P. E. Lones,** aged 30; Capt. **J. B. Tackaberry,** aged 34; Capt. **F. Hunton;** Capt. **P. C. MacRae;** Capt. **G. S. Blandy;** Capt. **J. Ewing;** Lieut.-Col. **A. C. Fox** and eight other medical officers lost as the *Arcadian* was torpedoed in the Mediterranean; Capts. **H. G. Smith, T. G. S. Hodson** and Lieut. **J. Naylor** lost as the hospital ship *Salta* was mined in the English Channel.

PROCEEDINGS OF THE NEW YORK SESSION

MINUTES OF THE SIXTY-EIGHTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT NEW YORK CITY, JUNE 4-8, 1917

HOUSE OF DELEGATES

First Meeting—Monday Morning, June 4

The House of Delegates met in Hosak Hall, Academy of Medicine Building, and was called to order at 10:10 a. m. by the chairman, Dr. Hubert Work, Pueblo, Colo.

Preliminary Report of the Committee on Credentials

Dr. D. Chester Brown, Connecticut, chairman, made a preliminary report for this committee, stating that the committee had examined the credentials of delegates now reported and found that these credentials conformed to the by-laws of the Association; that the delegates had signed the register, had been invested with the badge of membership and were duly qualified to take seats as delegates to the American Medical Association, and that a quorum had so registered. The report was received and adopted. The chairman thereon declared the House duly organized.

The next thing in order was the roll call by the Secretary.

The Secretary reported that the delegates had registered their attendance.

The next order of business was the presentation, correction, and adoption of minutes of the sixty-seventh annual session.

The Secretary stated that these minutes had been printed, distributed among the members of the sixty-seventh annual session, and no changes had been called to his attention.

Dr. Arthur T. McCormack, Kentucky, moved that the reading of the minutes be dispensed with.

Seconded and carried.

Dr. John D. McLean, Pennsylvania, moved that the minutes be adopted as printed.

Seconded by Dr. C. E. Cantrell, Texas, and carried.

The chairman introduced Dr. Rupert Blue, Washington, D. C., President of the American Medical Association, who delivered a brief address, which was referred to the Reference Committee on Reports of Officers.

The address follows:

Supplemental Report by the President

RUPERT BLUE, M.D.
President of the American Medical Association

To the Members of the House of Delegates of the American Medical Association:

On account of the present international situation and the relation of our government to it, emergencies affecting the Association have arisen which required immediate action by me as President. These actions I desire to report to the House of Delegates. They have related to the need of medical preparedness in view of the danger of our country being drawn into the war.

APPOINTMENTS TO MEMBERSHIP OF STATE RED CROSS COMMITTEES

At the last meeting of the House of Delegates, the Committee on Red Cross Medical Work recommended that the President of the American Medical Association should invite the attention of the state medical societies to the desirability of prompt organization of state and county committees on Red Cross medical work so that the medical profession would be prepared to respond should the country need its services.

With its report, this committee submitted the "regulations of the national committee on Red Cross medical service," embodying the plan of organization of state committees.

As will be seen by consulting this report and the appendix mentioned (Proceedings of the House of Delegates of the American Medical Association, sixty-seventh annual session, p. 63), this plan called for the appointment of state committees to consist of not more than nine physicians, three of whom should be selected by the President of the American Medical Association, three by the president of the Congress of American Physicians and Surgeons, and three by the president of the American College of Surgeons.

In conformity with the above and on request of the director general of military relief of the American Red Cross, three members were so named by me. Two of the three members named were the president and secretary of the state medical society. The letters of appointment were sent out through the Red Cross. I believe these appointments are in harmony with the purposes of your Committee on Red Cross Medical Work and in the interest of Red Cross organization.

APPOINTMENT OF COMMITTEE TO REPORT ON RESOURCES OF ASSOCIATION AND THEIR UTILIZATION IN CASE OF WAR

On request of Dr. Franklin Martin, member of the advisory commission, and Dr. F. F. Simpson, chief of the medical section, Council of National Defense, a committee of three was designated by me to report on the best way of utilizing the activities of the members and the materials represented by the American Medical Association. The personnel of this committee was as follows: Dr. Arthur Dean Bevan, Dr. Alexander Lambert and Dr. J. W. Kerr.

After considering the matter fully, this committee submitted a report, April 21, 1917, which was referred by me to the Council of National Defense. In this report (copy of which is submitted herewith) there is presented a brief history of the organization of other committees variously constituted, relating to medical preparedness and the Red Cross medical work. Attention is also invited to the extent of organization of the American Medical Association, the number of its members, and its facilities for reaching this membership, and the recommendation is made that the President and the officers of the Association offer to the government for the purpose of organizing the medical profession for war the services of the entire organization. I have to request that Dr. Bevan, chairman of the committee, be permitted to read the report in full for your information and for such action as may be deemed necessary. In conformity with this recommendation, I tendered the services and resources of the Association to the government through the General Medical Board of the Council of National Defense at its meeting in May last. I need hardly say that this action met with a very hearty reception, and a vote of thanks was tendered to the Association for its patriotic offer.

SUGGESTIONS TO COMPONENT SOCIETIES RELATING TO MEDICAL PREPAREDNESS

At the instance of the Secretary of the Association, letters were addressed to the presidents and secretaries of component medical societies of the Association, inviting their attention to the need of officers in the medical departments of the Army and Navy and in their respective reserve corps. It was also suggested that societies should consider the number of their members who could be spared for this purpose and the steps that should be taken by societies to safeguard the interest of those who respond to the call of duty.

I need hardly say that the present conditions have no precedent in our generation. In all probability, extensive demands will be made on the country in the present crisis, and the medical profession will have the privilege of contributing largely to meet these demands. The steps taken thus far are only a beginning. I trust the House of Delegates will approve the action taken by me, and that it will specifically authorize its officers to offer to the government, for the

purpose of organizing the medical profession for war, the services of the medical organization, and give to the governmental authorities the assurance that the American Medical Association desires to cooperate in every possible way in this work of the government and with other medical organizations that have offered their services for this purpose.

Address of Chairman of the House of Delegates

Dr. Hubert Work, chairman, presented the following address to the House of Delegates:

To the Members of the House of Delegates of the American Medical Association:

The by-law creating the new office of chairman of the House of Delegates extended to him permission to make suggestions to the House, in writing, at any time.

I construe the functions of this office to be executive rather than suggestive, and prefer not to indicate needed legislation. This will be specifically called to your attention through reports of officers soon to be read and by delegates from the floor.

Cooperation between us will, however, be necessary for effective and economical use of the time allotted for your deliberations.

Rules of order and procedure have heretofore been arranged and adopted, intended to admonish delegates who might become more intent on personal vantage than on the greater good to the larger numbers, and equally to restrain your speaker from arbitrary enforcement of his personal views.

It is confidently expected that with this mutual understanding of a common purpose the letter of the law may never be invoked, but that its spirit will control and no one of us will forget our duty to each other immediately, to the Association we represent eventually, and to the millions of sick which 70,000 members care for ultimately.

To those of you who sit in this House for the first time, perhaps I may say that its rules and mode of procedure are similar to those of other deliberative bodies of like kind.

All routine and new business requiring much time for consideration is referred to committees selected from the floor, who report back a digest of their findings with recommendations.

It is not necessary that these committees report unanimously. Some of the most effective work of this House has been accomplished on reports of minority members of committees.

It is intended that the delegates in this House shall have equal opportunity to be heard, whether representing a state alone or one of the delegations numerically strong; or whether a new member or one long familiar with his opportunities.

The reference committees which I shall later name have been selected so far as possible from geographic location, and from those who by reason of previous service in the House have had their attention directed to the legislative needs of the Association.

The setting apart of two days for uninterrupted work of the House will, I believe, promote thorough work and efficiency.

Heretofore delegates were compelled to forego their section work or neglect their House duties. This work of committees was done by a minority of members, with the result that the Association's legislation has been directed from necessity by its officers and chairmen of reference committees, a responsibility not courted by them nor contemplated by the constitution.

The duties of these reference committees are of the utmost importance to the welfare of the Association, and I would earnestly urge that every committeeman give to this work his very best attention.

Through no dereliction of our profession or of our people, our country, and we are citizen medical men, is being drawn by the logical circumstances toward conditions for which history records no parallel.

The American Medical Association looks to you, gentlemen, its executive guardian and final authoritative body, to direct its officers whom you elect how to meet this national crisis as an organization.

When war burst on Europe and was later threatened and declared by our own United States, the medical profession with its handmaiden, the Red Cross, was the first called of each country and the first to answer.

The American Medical Association from its membership offered to the cause of humanity the best equipped medical men the world has ever known. Others by the thousand are preparing to follow, many of them sacrificing incomes that seem like fortunes to some of us—duty trained professional men, not tradesmen for hire—for ours is a labor organization which has never discussed the length of working hours or a fixed compensation for service.

As individuals we can cheer those who go forward and hearten those they leave behind, and help each other care for them, but what service the splendidly organized American Medical Association may render as an organization is for you to both suggest and direct.

Reference Committees

At the conclusion of his address, the chairman announced the following reference committees:

RULES AND ORDER OF BUSINESS

G. Wythe Cook, Chairman.....District of Columbia
H. L. Bartlett.....Maine
John O. Polak.....New York
J. W. Riley.....Oklahoma
J. H. Irwin.....Montana

MEDICAL EDUCATION

William S. Lalor, Chairman.....New Jersey
L. W. Littig.....Iowa
Robert E. Noble.....U. S. Army
R. A. Hatcher.....New York
Dean Lewis.....Illinois

LEGISLATION AND POLITICAL ACTION

M. L. Graves, Chairman.....Texas
E. J. Goodwin.....Missouri
C. J. Whalen.....Illinois
Sol G. Kahn.....Utah
F. W. McRae.....Georgia

HYGIENE AND PUBLIC HEALTH

William C. Rucker, Chairman....U. S. Public Health Service
A. T. McCormack.....Kentucky
John Ridlon.....Illinois
LeRoy Crummer.....Nebraska
E. B. Heckel.....Pennsylvania

AMENDMENTS TO CONSTITUTION AND BY-LAWS

Floyd M. Crandall, Chairman.....New York
C. L. Stevens.....Pennsylvania
George A. Lund, U. S. Navy.....New York
Perry Bromberg.....Tennessee
M. N. Valdeng.....Iowa

REPORTS OF OFFICERS

H. G. Wetherill, Chairman.....Colorado
E. A. Hines.....South Carolina
B. R. McClellan.....Ohio
Southgate Leigh.....Virginia
A. E. Bulson, Jr.....Indiana

CREDENTIALS

D. Chester Brown, Chairman.....Connecticut
F. C. Warnshuis.....Michigan
C. P. Meriwether.....Arkansas
H. P. Newman.....California
C. W. Hannaford.....New Hampshire

MISCELLANEOUS BUSINESS

J. S. Blake, Chairman.....Massachusetts
D. E. McGillivray.....Washington
Alexius McGlannan.....Maryland
H. R. Ritchie.....Minnesota
F. LeM. Hupp.....West Virginia

Reports of Officers

Report of the Secretary

The Secretary presented the following report, which was referred to the Reference Committee on Reports of Officers:

To the Members of the House of Delegates of the American Medical Association:

TABLE—ORGANIZATION OF CONSTITUENT ASSOCIATIONS

Constituent Association of	No. Counties in State	No. Component Societies in State Assn.	Number Counties in State Not Organized		No. Physicians in State (5th Ed. Directory)	Number Members of State Association		No. A. M. A. Fellows in State	No. Subscribers to Journal in State*
			1916	1917		1916	1917		
Alabama	67	67	.....	.....	2,569	1,760	1,851	348	188
Arizona	14	12	3	2	307	147	153	124	84
Arkansas	75	62	9	13	2,037	1,091	1,103	338	164
California	59	28	20	19	5,087	2,703	2,790	1,950	835
Colorado	63	25	34	31	1,733	811	868	489	188
Connecticut	8	8	.....	.....	1,678	970	1,039	695	348
Delaware	3	3	.....	.....	261	101	101	57	32
Dist. Columbia	.....	.....	.....	.....	1,482	572	560	356	199
Florida	52	31	20	20	1,321	530	573	239	156
Georgia	152	85	56	58	3,421	1,415	1,323	508	360
Idaho	37	6	20	12	439	133	154	86	118
Illinois	102	98	1	1	10,648	5,934	6,057	3,897	2,050
Indiana	92	87	1	1	4,872	2,474	2,418	1,158	461
Iowa	99	97	2	2	3,751	2,186	2,277	1,214	488
Kansas	105	70	27	27	2,683	1,475	1,117	812	323
Kentucky	120	115	2	4	3,584	2,373	2,390	707	256
Louisiana	64	41	22	21	2,060	821	805	375	255
Maine	16	14	2	2	1,205	717	753	313	146
Maryland[1]	23	21	3	2	2,292	1,198	1,200	694	415
Massachusetts[2]	14	18	.....	.....	5,869	3,620	3,593	2,155	945
Michigan	83	57	2	2	4,360	2,862	3,027	1,845	480
Minnesota	86	28	3	3	2,447	1,416	1,552	1,210	511
Mississippi	81	47	4	3	2,048	1,068	984	196	155
Missouri[1]	114	98	11	11	6,379	3,097	3,251	1,465	507
Montana	42	14	25	25	636	220	323	205	132
Nebraska	93	62	25	24	1,911	953	970	569	415
Nevada	16	3	13	13	154	40	52	51	29
New Hampshire	10	10	.....	.....	690	508	509	208	71
New Jersey	21	21	.....	.....	3,239	1,670	1,757	948	442
New Mexico	26	10	16	16	430	185	199	123	62
New York	62	59	2	1	15,670	8,191	8,512	5,075	2,268
North Carolina	100	76	12	17	2,102	1,211	1,262	399	274
North Dakota	53	14	3	2	586	351	383	282	88
Ohio	88	87	1	1	8,045	4,208	4,679	2,403	1,032
Oklahoma	77	74	3	3	2,634	1,506	1,407	612	224
Oregon	36	13	3	3	1,187	510	596	269	209
Pennsylvania[3]	67	63	4	4	11,502	6,262	6,800	3,937	1,716
Rhode Island[2]	5	6	.....	.....	772	417	446	326	146
South Carolina	45	41	3	3	1,399	685	732	277	143
South Dakota	68	9	7	7	676	343	376	256	135
Tennessee	96	65	36	29	3,457	1,355	1,675	667	428
Texas	250	147	70	70	6,240	3,450	3,443	1,389	500
Utah	28	5	23	23	465	266	259	158	70
Vermont	14	11	.....	.....	668	384	380	157	67
Virginia[4]	100	46	51	51	2,547	1,775	1,756	572	318
Washington	39	20	18	18	1,695	825	956	523	268
West Virginia	55	30	12	12	1,729	997	793	500	207
Wisconsin	71	54	.....	.....	2,803	1,816	2,804	1,064	474
Wyoming	22	5	17	15	251	117	117	59	62
Canal Zone	.....	.....	.....	.....	97	61	82	22	31
Alaska	.....	.....	.....	.....	.....	.....	.....	8	24
Hawaii	5	.....	.....	.....	162	69	79	36	28
Porto Rico	7	2	.....	.....	292	115	114	35	25
Philippine Isl.	.....	.....	.....	.....	735	94	101	30	63
Totals	3,025	2,085	586	571	146,527	78,201	81,501	42,480	19,724
Fellows listed at foreign addresses, Honorary and Affiliate Fellows								106	.....
Fellows in government services								1,424	.....
Number on Fellowship roll, May 1, 1917								44,010	.....
Number on mailing list of THE JOURNAL, May 1, 1917								.....	63,678

* Not including Fellows of American Medical Association.

Note.—The number of members of the different associations stated in this table is in accord with the membership of the several associations as they were reported to the Secretary on May 1, 1917.

The lack of an effective uniform system for reporting the membership of the state associations accounts for whatever discrepancies this table shows and detracts from the value of the statement.

Component societies are those societies which compose the state association. A component society may include one county or more.

1. The state of Maryland has 23 counties and the city of Baltimore; Missouri has 114 counties and the city of St. Louis.

2. These state associations are divided into district societies, and these are listed in the table as component societies. Some of these districts are smaller and some larger than the county, the county lines being ignored.

3. Provision is made for the physicians in each of these counties to join the component society in an adjoining county.

4. Virginia has recently adopted the plan of organization and is now establishing component county medical societies.

MEMBERSHIP

The membership of the various constituent state associations, which constitutes the membership of the Association, according to the records in the Secretary's office, May 1, 1917, was 81,501 as shown in the table on page 32.

FELLOWSHIP

The Fellowship of the American Medical Association on May 1, 1916, was 43,181. During the past year, 416 Fellows have died, 1,894 have resigned, 477 have been dropped as not eligible, 672 have been dropped for nonpayment of dues and 20 have been removed from the rolls on account of being reported "not found," making a total of 3,479 names to be deducted from the Fellowship roll. There have been added 4,308 names to the Fellowship roll, of which 3,066 were transferred from the subscription list. The Fellowship of the American Medical Association on May 1, 1917, was 44,010, a net increase for the year of 829.

This gain in the number of Fellows, as in previous years, is due largely to circularizing subscribers to THE JOURNAL who were eligible, urging them to become Fellows.

AD INTERIM APPOINTMENT OF COMMITTEES

On request of Dr. Franklin H. Martin, Member of the Advisory Committee on National Defense, and Dr. F. F. Simpson, Chief of the Medical Section, Council on National Defense, the President appointed the following committee to outline recommendations for the best method of utilizing the facilities of the American Medical Association in preparing for war. The committee, which, we are advised, has reported to the President, is as follows: Arthur Dean Bevan, Chairman, Illinois; Alexander Lambert, New York, and John W. Kerr, U. S. Public Health Service.

On March 29, in view of the critical condition in the relationship of the United States with Germany, I addressed letters to both the surgeon-general of the United States Army and the surgeon-general of the United States Navy tendering the services and cooperation of my office as Secretary of the American Medical Association in any way in which the facilities of the office or of the organization might best serve the medical departments of the federal government. This action was a personal one which I felt the emergency warranted. It is now reported to the House of Delegates for its official approval if the house deems such action advisable.

Other matters in which the office of the Secretary of the Association has been concerned are reported to the House of Delegates from other sources.

Respectfully submitted,

ALEXANDER R. CRAIG,
Secretary.

Report of Board of Trustees

Dr. W. T. Councilman, Chairman, read the following report which was referred to the Reference Committee on Reports of Officers:

To the House of Delegates of the American Medical Association:

The various activities of the Association in the interest of the medical profession and of the public have been carried on in the usual successful and progressive manner. These activities will be covered by the reports of the various Councils, etc.; we here refer only to matters which pertain strictly to the business and publications of the Association.

THE JOURNAL

Following this report are tables giving details regarding the circulation of THE JOURNAL. During 1916 there were issued 3,564,522 copies of THE JOURNAL, making a weekly average of 67,255 copies. The weekly average for 1916 was 35 copies less than for 1915, although during the past year—1916—there was an actual gain of 41 over the preceding year in the number of copies sent to Fellows and subscribers. The reduction in the weekly average occured by reason of economy in exchange copies and copies sent to advertisers, etc.

As will be noticed in the financial report, there was an increase in subscription receipts during the year 1916 of nearly $20,000.

Archives of Internal Medicine

There was a financial loss of approximately $66.00 on The Archives for the year 1916 — hardly sufficient to mention, considering the character of the journal and the number of pages of reading matter included.

At the end of the year there were 2,102 names on the mailing list, including foreign exchanges, libraries, etc. This indicates a net gain of 46, as compared with 1915 — 33 of which are on the foreign list. There were 1,008 names added to the list in 1916 and 959 removed. During the year 28,447 copies were printed — 266 less than the number printed in 1915.

American Journal of Diseases of Children

There was a gain of a little over $322 on the Children's Journal in 1916.

On the first of January there were 2,372 names on the mailing list, indicating a gain of 174 for the year, 22 of which are in the foreign list. There were 1,347 names added to the list in 1916 and 1,173 removed. There were 31,164 copies printed last year — 1,407 more than in 1915.

Cooperative Medical Advertising Bureau

The Bureau is doing very satisfactorily. Two new state journals were established during the year — the Rhode Island and Nebraska — both of which have joined the Bureau. There is only one journal owned by a state society — that of Illinois — that does not conform to the standards of the Council on Pharmacy and Chemistry, and therefore does not receive the benefits of the Bureau's services.

The net contribution the Association had to make for the Bureau for the year 1916 amounted to $222.90. This Bureau was created to be of assistance to the state society journals, and we believe it has proved to be such.

Increased Cost of Paper

The principal item of expense in the publication of The Journal is that of paper. This expense is equal to one third of the combined expenses. Our paper contract is one that makes it possible for us to get the lowest rate: the amount used is large; we deal directly with the mill, thus saving middlemen's profits; we have large storage facilities, making it possible for those furnishing the paper to vary deliveries to meet the exigencies of the mill; and the terms are cash with discount.

The price of paper began to go up rapidly in the spring of last year. About June and July, book paper was almost unobtainable and commanded a price three or four times what we were paying. Our contract covered the year 1916, but on August 1 we accepted a proposition made by the mill to rescind that contract and to make a new one—a compromise contract we will call it—running from Aug. 1, 1916, to July 31, 1917, at a price based on a rate far below the prevailing price at the time. The low rate—that is, our original contract rate—prevailed for the entire year 1915, the cost of paper being approximately $116,000. In 1916 the cost of paper was approximately $134,000—an increase of about $18,000 over the preceding year. We estimate that for the present year, 1917, the paper will cost about $170,000. This means an increase in 1917 over last year of $37,000, and of $54,000 over 1915. These figures are conservative, and are based on the minimum price we may hope to get. For 1918 the contract price probably will be higher than for this year—it must be kept in mind that for seven months of this year we have the compromise rate, based on the low price of the early part of 1916.

Now what does this mean? Simply that last year our income was reduced by $17,000, and that this year the reduction will be some $54,000, solely on account of the increased cost of paper. But this is not all; other things have gone up, such as ink, rollers, wire for stitching The Journal, linotype metal and supplies generally, not to mention labor, which is steadily going up in all divisions of the printing trade.

These new conditions presented problems to your Board of Trustees that had to be met. Other publishers had to meet the same conditions; some have done so by increasing the subscription price, some by decreasing the size of their publications, some by economizing on free samples, etc., or by being satisfied with smaller profits. And we must meet them in like manner: we must either increase the annual subscription price, decrease the size of The Journal, or get along with decreased income.

Increasing the subscription price cannot be thought of; neither is it necessary. But the size of The Journal can be reduced without seriously lessening its value or its usefulness to its readers. Elsewhere in this report we refer to the large amount of extra space required to print the section papers, necessitating the addition of many pages—from 600 to 750 a year—to accommodate this enormous amount of matter. We could still further reduce the number of pages, that is, reduce the normal size, and our journal would still be so much larger than any other weekly medical journal that there would be no comparison. For instance, our journal contains nearly as much reading matter as the two New York weekly medical journals combined; and the subscription price of each of these journals is the same as that of ours.

We have economized in the way of sending out sample copies. In 1915 over 150,000 circular letters and sample copies of The Journal were sent to physicians who were neither Fellows nor subscribers; during the past year less than one third of this number of sample copies were circulated—less than 50,000, as against 150,000 the previous year.

But even with such economy, we shall find that our income will be considerably reduced; consequently we must act accordingly. Our surplus income has been used for altruistic purposes—for work carried on by the Association — for instance, by the Chemical Laboratory and the Council on Pharmacy and Chemistry, by the Council on Medical Education, and by the Council on Health and Public Instruction. Your Board of Trustees found it necessary to reduce the apportionments to be used by these various councils, but has endeavored to do this without seriously crippling the important work being done.

Publication of Section Papers

The strenuous times through which the country is passing affects all corporations as well as individuals, and we must adjust our activities to meet the new problems as they present themselves. One of these problems which has given the Board of Trustees much concern is the publication in The Journal of the large mass of material annually presented before the sections. While as a whole the papers are of a high order, some are quite indifferent and would be regarded as not acceptable if offered to The Journal direct. As a matter of fact, some manuscripts which have been submitted to The Journal for publication, and returned for cause other than lack of space, later have been read before one of the sections and endorsed for publication. One of the functions of the executive committee of each of the sections is to pass on manuscripts read before its section and to approve or disapprove them for publication. The by-law provides that "no paper shall be published as having been read before a section unless it has received the approval and the endorsement of each member of the executive committee of the section before which it was read." But the trouble is, this law has become merely a form. For instance, with one exception all the papers read in the various sections in 1915 were endorsed for publication by all three members of the executive committees; and last year all except two were approved. Naturally, this might be expected; individuals hesitate to assume the odium of disapproving a paper. In any event, the signing of the approval slips is simply a matter of form.

The number of papers, however, which can be classed as inferior, and which should be refused publication for this reason alone, is comparatively small. The more difficult problem is presented in the publication of section papers that are too technical and too special for a journal of general circulation, such as ours. This difficulty is the more pronounced because of the large and increasing number of such papers. There are not many of the section papers that are

out of place in THE JOURNAL because of being ultratechnical; the real problem is in connection with the highly special papers—for instance, those read in the Section on Ophthalmology and in that on Laryngology, Otology and Rhinology. Few of the papers presented in the latter section appeal to the general practitioner, and still fewer of those in the Section on Ophthalmology. One of the common criticisms received at THE JOURNAL OFFICE during the time the special papers are being published is that too much space is devoted to the publication of these special articles. It was for this reason—that is, to avoid criticism—that in 1912 and 1913 the papers of these sections were printed together as a supplement to THE JOURNAL. However, there was so much protest on the part of some members of the two sections that this method of publishing the papers was given up. The protests were to the effect that the supplement containing these papers would be thrown aside unread by the average reader.

Still more serious, however, than the character and quality of the papers in the various sections, is the number presented and the space required for their publication with the discussions. The publication of the papers presented at the Atlantic City session in 1914 required 1,065 pages; those presented at San Francisco in 1915 required only 815 pages (there was a small attendance at this session; two sections held no meetings, and nearly all the others had much shorter programs than usual; further, one day was given up entirely to other than section work); and those presented at Detroit last year occupied 1,025 pages. It may be of interest to note that the section papers occupy nearly as much space in THE JOURNAL as is devoted to original papers in any of the other American medical weeklies for the whole year.

The publication of such a mass of material naturally takes time. It is never possible to complete its publication within six months, and it is often the end of January before all the matter is printed. This year it was March 10. This delayed publication is unfair to those whose papers are held back; they have just cause for complaint, and they do complain. It is certainly not fair to the reader, and is an injury to THE JOURNAL to be printing papers that were read from five to eight months previously. In addition to all this is the fact that THE JOURNAL is prevented from publishing papers that are of practical and timely importance. The large circulation and its prestige make THE JOURNAL a valued and desired medium of publication. As a consequence, at all times many more acceptable papers are offered than there is room for, and when the section papers are in process of publication, this condition of affairs, of course, is worse. Hence, during these months THE JOURNAL is compelled to return excellent, practical, timely papers—papers that it should publish, and papers that often are of far more practical value to the reader than some of the section papers which are displacing them.

A still further handicap is the fact that when papers are continually returned with the hackneyed "on account of lack of space" many men get the idea that there never is any space; and many hesitate to submit a second paper when one has been returned. Still others regard the action as personal offense.

These are, in brief, the conditions that have formed a problem which your Board of Trustees has been trying to solve for many years. As may be remembered, on many occasions the board in its report to the House, has referred to this matter. Each year the board has hesitated to take any action that might appear radical, hoping that in time it would be appreciated that even for the good of our annual meetings there is too much time devoted to the reading of papers and to the discussions, and that these would be reduced either by having fewer sections or by having the sections occupy less time, which would mean that fewer papers would be read.

This year, however, conditions have developed which compel the Board of Trustees to take action. At the prevailing price of paper it is not possible, with financial safety, to publish all this material. It has been the custom during the fall and winter months, or until the publication of the section papers was completed, to add sixteen, thirty-two or sometimes forty-eight pages to THE JOURNAL each week solely to get these papers out of the way within a fairly reasonable time. This year we economized on account of the high price of paper, but even so 200 pages were added; and in spite of this, as stated above, the publication of the papers was not completed until March 10.

To continue to add extra pages with paper at its present price is financially impossible. The Board of Trustees at its meeting in February passed the following resolution:

"That all papers read a the annual session be treated as volunteer papers and that the same be published in full in THE JOURNAL or rejected, or published in abstract, as may seem best."

It is understood that the Publication Committee and the Editor will accept no more papers than can be published within a reasonable length of time—say, by November 15; that such papers as are accepted for publication in full will appear as in the past with the discussions following; and that other approved papers will be published in abstract form with abstract of the discussions following. Those who desire to publish their papers elsewhere than in THE JOURNAL will have the privilege of doing so, as in the past. When a paper is published in abstract and not printed elsewhere in full, reprints of the complete paper will be available to those desiring a copy. All papers are put into type in full for use in the Transactions of the various sections. Reprints can therefore be made from the Transactions on those papers of which abstracts only are published in THE JOURNAL.

As a solution of the problem connected with the publication of the special papers—that is, those presented in the Section on Ophthalmology and in the Section on Laryngology, Otology and Rhinology, it was tentatively decided to establish a journal on Ophthalmology and Oto-Laryngology to be published monthly. The final decision as to this and the details were referred to a special committee to report at our meeting at this session.

Naturally, of course, such a journal would publish all the papers and discussions on these subjects that were regarded by the editors of the proposed journal as of sufficient value to publish, and if they were not of sufficient value to publish in that journal they should not be published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. If THE JOURNAL does not have to publish the papers read in these two sections, the pressure on its columns will be greatly relieved. We estimate that the publication of the papers and discussions in these two sections requires more than one sixth of the space required for the transactions of all the sections. Last year, for instance, it took ninety-six pages to publish the transactions of the Section on Ophthalmology and eighty-nine for those of the Section on Laryngology, Otology and Rhinology, or a total of 185 pages. This is nearly 20 per cent. of the total number of pages required to publish all the transactions.

Two years ago some of the leading laryngologists of the country requested the Association to publish a journal devoted to their specialty, but at that time no final action was taken. It is quite possible that later on it will be found more satisfactory to publish two journals—one devoted to ophthalmology and one to laryngology and otology. In any event, whatever is published will be of a high character and will be a credit to the specialists that are represented.

The only other organization comparable with ours is the British Medical Association. Its journal completes the publication of its section proceedings in six to eight weeks at the outside. This for two reasons: first, they do not have one-fourth the number of papers we have; and second, only comparatively few of these papers are published in full, the others appearing in abstract form. Still further, they have no stenographers to take down the discussions, each speaker writing out his own. This makes for much less, but more important, discussions. We do not think it necessary or advisable to go to the extent to which the British journal goes.

For several years the Association has enjoyed not only uninterrupted prosperity in so far as its material assets are concerned, but also continuous success in its scientific and altruistic work. In its altruistic work it has at all times uncompromisingly hewn to the line. It was inevitable that its exposures of the worthless and fraudulent preparations and devices with which the sick and credulous have been, and still are, exploited by venal interests would sooner or

later be assailed by the interests affected. While we have been threatened with suits many times, and while a number of suits have been filed against us for making these exposures, with one exception all have ended in threats.

As is well known, the Association last year had to defend itself in what proved to be one of the longest — it lasted thirteen weeks — and hardest fought cases in the annals of litigation in this country. The Association has every reason to feel that the result of this trial was satisfactory, not only from the moral standpoint, but also in its financial aspects. The unselfish and cordial spirit in which so many busy and eminent men gave freely of their time, knowledge and energy in support of a simple principle and for the public interest was most gratifying. The Trustees take this opportunity to express the thanks of the Association to each and all of these self-sacrificing men for the great service rendered. The monetary power of the interests pitted against the Association was used to the fullest advantage, and it would seem that no efforts were spared to put the Association to every expense and annoyance possible. The resulting cost of the trial is reflected in the Auditors' Report, which shows an operating loss for the year for the first time in twenty-five years. Notwithstanding this unusual expense, the Association, as is also shown by the Auditors' Report, is in an excellent financial condition; and by good management in THE JOURNAL office it was possible to take care of this expense largely out of the receipts without impairing the reserve fund. The good which was accomplished by this suit amply repays the cost, and will survive when the troubles and trials incident to it are long forgotten.

This trial demonstrated the wisdom of having a large reserve fund on which to fall back, for the existence of this fund gave courage to carry on a vigorous defense to a successful end. This leads us to suggest that the reserve fund should be still further increased. In times of adversity the absence of such a fund might badly cripple us or force us to suspend temporarily all altruistic work. Not all years are "fat" with prosperity; "lean" years are bound to come, against which provision must be made. No one can foretell the end of the critical period upon which this country has entered; but it is easy to foresee the possibility of a diminished income to the Association. It is quite possible that a large number — perhaps several thousand — of our Fellows will be called to the front for an indefinite period, during which time it is more than likely that there will be a considerable falling off in the subscriptions to THE JOURNAL. Hence it behooves us to husband our resources that there may be no interruption in our more desirable and important activities.

DEATH OF DR. JONES

The medical profession, and the Board of Trustees especially, met with a great loss in the death of Dr. Philip Mills Jones of San Francisco, which occurred, Nov. 27, 1916. He was present at the meeting of the Board of Trustees held on November 3, and was in his usual good health. Within three weeks he was dead from pneumonia. It was a singular and sad coincidence that he and his wife died of the same disease within twenty-four hours. For many years Dr. Jones had been a power for good in the profession. He had been secretary of the Medical Society of the State of California for fifteen years, and a trustee of the American Medical Association since 1908. He was always active and efficient. Organized medicine has lost an asset that it will be hard to replace. Dr. Jones had a judicial mind and the legal phase of all medical propositions at once appealed to him. He was so interested that he studied law and last year was admitted to the California Bar. He died in the midst of his activity and usefulness, and your Board of Trustees mourns the loss of a most charming companion and an unusually versatile and useful member.

All of which is respectfully submitted

W. T. COUNCILMAN, Chairman,
M. L. HARRIS, Secretary,
THOMAS MCDAVITT,
PHILIP MARVEL,
W. T. SARLES,
A. R. MITCHELL,
E. J. MCKNIGHT,
OSCAR DOWLING.

Addenda to Trustees' Report

SUBSCRIPTION DEPARTMENT

The regular weekly issue of THE JOURNAL of the American Medical Association from Jan. 1, 1916, to Dec. 31, 1916, inclusive (fifty-three issues), was as follows:

January 1	72,300		July 1	65,674	
January 8	69,095		July 8	65,621	
January 15	68,830		July 15	67,363	
January 22	67,900		July 22	65,402	
January 29	66,600		July 29	65,141	
		344,725			329,201
February 5	66,232		August 5	65,376	
February 12	66,402		August 12	65,207	
February 19	66,234		August 19	66,088	
February 26	66,816		August 26	65,369	
		265,684			262,040
March 4	66,755		September 2	65,620	
March 11	66,324		September 9	65,857	
March 18	66,028		September 16	69,078	
March 25	66,668		September 23	68,733	
			September 30	68,919	
		265,775			338,207
April 1	66,260		October 7	68,999	
April 8	66,283		October 14	68,619	
April 15	66,022		October 21	68,703	
April 22	66,202		October 28	68,483	
April 29	66,530				
		331,297			274,804
May 6	72,992		November 4	66,795	
May 13	66,833		November 11	67,282	
May 20	66,602		November 18	68,481	
May 27	65,637		November 25	68,722	
		272,064			271,280
June 3	65,991		December 2	68,818	
June 10	66,310		December 9	69,270	
June 17	65,535		December 16	70,380	
June 24	65,780		December 23	70,003	
			December 30	67,358	
		263,616			345,829
Total				3,564,522	
Weekly average				67,255	

PERCENTAGE OF PHYSICIANS RECEIVING THE JOURNAL

This table gives the number of physicians (based on the fifth edition of the American Medical Directory) in the United States, the number receiving THE JOURNAL and the approximate percentage in each state. The copies going to physicians in the United States Army, in the United States Navy, in the Public Health Service, etc., are not included. The percentages last year were based on the fourth edition of the Directory.

State	Physicians in State 5th A. M. Dir.	Number Receiving JOURNAL	Approx. per cent. 5th A. M. Dir.
Alabama	2,569	588	23
Arizona	307	208	64
Arkansas	2,637	526	20
California	5,687	2,869	50
Colorado	1,733	715	41
Connecticut	1,678	1,060	63
Delaware	261	95	37
District of Columbia	1,482	589	40
Florida	1,321	400	30
Georgia	3,421	923	27
Idaho	439	213	48
Illinois	10,648	5,965	56
Indiana	4,872	1,683	34
Iowa	3,751	1,750	44
Kansas	2,683	1,202	45
Kentucky	3,584	1,047	29
Louisiana	2,060	643	31
Maine	1,205	485	40
Maryland	2,292	1,114	49
Massachusetts	5,869	3,180	54
Michigan	4,360	2,348	54
Minnesota	2,447	1,722	70
Mississippi	2,048	376	18
Missouri	6,399	2,200	34
Montana	636	348	51
Nebraska	1,911	850	45
Nevada	154	89	58
New Hampshire	690	398	58
New Jersey	3,239	1,422	44
New Mexico	430	209	48
New York	15,670	7,277	46
North Carolina	2,102	684	33
North Dakota	586	367	63
Ohio	8,045	3,366	42
Oklahoma	2,634	924	35
Oregon	1,187	527	44
Pennsylvania	11,502	5,526	48
Rhode Island	772	484	62
South Carolina	1,399	438	31
South Dakota	676	401	60
Tennessee	3,457	1,243	36
Texas	6,240	1,996	32
Utah	465	227	50
Vermont	668	238	36
Virginia	2,547	898	35
Washington	1,695	818	48
West Virginia	1,729	749	43
Wisconsin	2,803	1,556	55
Wyoming	251	115	46

This table shows the number of Fellows and Subscribers for each year, commencing with 1900:

Year	Fellows	Subscribers
January 1, 1900	8,445	4,633
January 1, 1901	9,841	8,339
January 1, 1902	11,107	10,795
January 1, 1903	12,553	12,378
January 1, 1904	13,899	14,674
January 1, 1905	17,570	15,698
January 1, 1906	20,826	17,669
January 1, 1907	26,255	20,166
January 1, 1908	29,382	20,880
January 1, 1909	31,999	18,983
January 1, 1910	33,032	19,822
January 1, 1911	33,540	20,504
January 1, 1912	33,250	21,620
January 1, 1913	36,082	19,863
January 1, 1914	39,518	19,751
January 1, 1915	41,254	20,430
January 1, 1916	41,938	22,921
January 1, 1917	42,744	22,156

The above figures include only those Fellows of the Association who are receiving THE JOURNAL of the American Medical Association. It does not include those who hold their Fellowship as commissioned medical officers in one of the three government services, honorary Fellows, nor those Fellows who have substituted *The Archives* or the *Children's Journal* for THE JOURNAL of the American Medical Association.

During the year 1916 there were 3,079 names transferred from the subscription list to the Fellowship roll.

TREASURER'S REPORT

Report of the Treasurer of the American Medical Association for the year ended December 31, 1916.

ASSOCIATION RESERVE FUND

Reserve Fund as at December 31, 1915		$124,060.46
Receipts for the year ended December 31, 1916:		
Interest		5,351.89
		$129,412.35
Disbursements for the year ended December 31, 1916:		
Transferred to General Working Fund		8,763.40
Reserve Fund as at December 31, 1916		$120,648.95

TREASURER'S GENERAL ACCOUNT

Balance as at December 31, 1915		$ 28,308.41
Receipts for the year ended December 31, 1916:		
Interest on Certificate of Deposit	$341.66	
Interest on Bank Balances	90.05	
		431.71
		$ 28,740.12
Disbursements for the year ended December 31, 1916:		
Transferred to General Working Fund		28,736.60
Balance as at December 31, 1916		$ 3.52

DAVIS MEMORIAL FUND

Balance as at December 31, 1915	$ 3,339.79
Interest received for the year ended December 31, 1916	100.92
Balance as at December 31, 1916	$ 3,440.71

AUDITORS' REPORT

CHICAGO, ILL., Jan. 18, 1917.

To the Board of Trustees of the
American Medical Association, Chicago, Ill.

Gentlemen:

In accordance with your instructions, we have audited the accounts of the American Medical Association for the year ended Dec. 31, 1916, and now submit our report thereon.

SURPLUS ACCOUNT

The surplus at the beginning of the year amounted to $418,027.54 and the surplus at the end of the year amounted to $382,135.69, a decrease of $35,891.85, which is accounted for as follows:

Net Loss on Operations	$ 44,655.25
Less Transfer from Reserve Fund	8,763.40
Net Decrease in Surplus	$ 35,891.85

The net decrease in surplus is spread over the assets and liabilities as follows:

Decrease in Assets:		
Property and Equipment		$ 11,504.45
Certificates of Deposit		20,000.00
Current and Working Assets		24,978.77
		$ 56,483.22
Less:		
Increase in Prepaid Expenses	$ 1,505.24	
Decrease in Liabilities:		
Accounts Payable	18,896.58	
Advance Payment on Publications	189.55	20,591.37
Net Decrease in Surplus, as above		$ 35,891.85

FINANCIAL POSITION

The financial position of the Association as at Dec. 31, 1916, is shown in the following statement:

BALANCE SHEET AS AT DECEMBER 31, 1916

ASSETS:			
Property and Equipment at Cost, less Depreciation:			
Real Estate and Buildings			$244,701.42
Machinery			36,920.30
Type and Metals			8,215.56
Furniture and Fixtures			13,021.55
Chemical Laboratory			1,724.22
Library			1,597.55
			$306,180.60
Reserve Fund Investment			120,648.95
Current and Working Assets:			
Inventory of Materials, Supplies and Work in Process		$31,219.86	
Accounts Receivable:			
Advertising	$25,048.56		
Reprints	1,610.09		
Miscellaneous	2,523.26		
Cooperative Medical Advertising Bureau	3,569.40		
Directory, 5th Edition (Estimated)	3,000.00		
		35,751.31	
Notes Receivable		324.37	
Directory, 6th Edition (Labor and Material)		5,981.04	
Cash in Bank and on Hand		7,843.08	
Office Fund		50.00	81,169.66
Liability Insurance Fund in Bank			4,017.93
Prepaid Insurance			1,579.39
Prepaid Expenses, Session 1917			154.75
Total			$513,751.28
LIABILITIES:			
Accounts Payable:			
Cooperative Medical Advertising Bureau			$ 2,684.59
Sundry			31.11
			$ 2,715.70
Advance Payment on Publications			4,233.01
Association Reserve Fund			120,648.95
Liability Insurance Reserve			4,017.93
Surplus			382,135.69
Total			$513,751.28

The balance sheet submitted, in our opinion, correctly reflects the financial position of the Association as at December 31, 1916, subject to provision for accrued interest, taxes and "Journal" subscriptions paid in advance, less subscriptions and memberships due and unpaid.

The securities representing the investment of the Association Reserve Fund were produced for our inspection and we found them in order.

We verified the cash on hand by actual count and the cash in bank by certificates obtained from the various depositories. The following is a statement of the cash balances, exclusive of the insurance cash fund:

Continental and Commercial National Bank	$ 7,318.56
First Trust and Savings Bank (Treasurer's Account)	3.52
Cash on Hand	521.00
Cash Fund	50.00
Total	$ 7,893.08

OPERATIONS

The operations of the Association for the Year ended December 31, 1916, are shown in the following statements:

INCOME AND PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED DECEMBER 31, 1916

JOURNAL:		
INCOME:		
Fellowship Dues		$ 43,797.75
Subscriptions		274,594.74
Advertising		229,175.38
Jobbing		3,870.14
Books		6,741.96

Reprints	2,638.84	
Buttons	145.70	
Miscellaneous Sales	5,839.95	
Interest	823.42	
	$567,627.88	
Expenses, Schedule "1"	415,052.71	
Net Income from "Journal"		$152,575.17
Miscellaneous Income:		
Children's Journal	$ 322.38	
Directory, 5th Edition (Estimated)	2,371.00	
Fire Insurance Recovered	243.15	2,936.53
		$155,511.70
Association Expenses, Schedule "2"	$ 71,681.36	
Less:		
Rentals	$3,480.00	
Interest on Treasurer's Account	431.71	3,911.71
	$ 67,769.65	
Miscellaneous Expenses, Schedule "3"	132,397.30	200,166.95
Net Loss on Operations		$ 44,655.25

JOURNAL EXPENSES—SCHEDULE "1"

Wages and Salaries	$152,213.61	
Editorials, News and Reporting	10,902.86	
Paper—Journal Stock	134,538.25	
Paper—Miscellaneous	3,918.87	
Electrotypes	5,504.79	
Binding	212.80	
Ink	4,695.69	
Postage—First Class	15,234.09	
Postage—Second-Class	27,772.04	
Journal Commissions	10,312.87	
Collection Commissions	2,723.14	
Discounts	3,613.04	
Express and Cartage	2,449.21	
Exchange	2,113.88	
Office Supplies	956.57	
Telephone and Telegraph	873.99	
Office Jobbing	3,038.77	
Miscellaneous	5,075.70	
Power	2,509.87	
Light	1,037.98	
Fuel	2,588.42	
Factory Supplies	4,294.71	
Repairs and Renewals—Machinery	3,224.76	
Bad Debts written off—less Recoveries	97.44	
		$399,903.35

DEPRECIATION:

Property and Equipment:	Rate	Amount	
Building "B" (New)	2½%	$4,399.30	
Machinery	15%	6,515.35	
Furniture and Fixtures	15%	1,642.21	
Factory Fixtures	15%	655.71	
Type	15%	740.85	
Metal	20%	1,004.36	
Chemical Laboratory	10%	191.58	15,149.36
Total			$415,052.71

ASSOCIATION EXPENSES—SCHEDULE "2"

Propaganda		$ 8,039.23
Association		19,403.94
Health and Public Instruction		13,017.68
Pharmacy and Chemistry and Chemical Laboratory		14,991.59
Medical Education		7,734.51
Organization		4,970.47
Therapeutic Research		612.75
Session 1916		2,438.10
Building "A" Expense:		
Depreciation, 2½%	$398.07	
Sundries	75.02	473.09
Total		$ 71,681.36

MISCELLANEOUS EXPENSES—SCHEDULE "3"

Insurance and Taxes	$ 5,730.92
Legal and Investigation Expense	124,772.21
Building Maintenance	1,604.75
Archives	66.52
Cooperative Medical Advertising Bureau	222.90
Total	$132,397.30

The audit embraced an exhaustive test of the various sources of income and the verification of the cash disbursements with proper vouchers on file. Included in the income for the period is an amount of $2,371.00 representing the profit from the sale of the Directory, 5th edition. This profit is arrived at after an arbitrary value of $3,000.00 has been placed on the accounts due from this source and still uncollected. This amount would appear to be conservative.

We have pleasure in reporting that we found the accounting records to have been maintained in the usual good order, and that every facility was afforded us for the proper conduct of the audit.

Yours truly,
MARWICK, MITCHELL, PEAT & Co.,
Chartered Accountants.

Report of the Judicial Council

Dr. Alexander Lambert, New York, Chairman, read the report of the Judicial Council which was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

At the annual session held last year in Detroit, the House of Delegates added to the power vested in the Judicial Council an appellate jurisdiction in intrastate controversies, with the definite direction, however, that such appellate jurisdiction is limited to questions of law and procedure but not of fact. At the time this action was taken, the delegates from Kentucky and from Mississippi publicly requested that the official minutes should record that, acting under direction of their respective state associations, the delegates from these states voted against according appellate jurisdiction to the Judicial Council. The minutes of the Association contain this record.

Since the Detroit meeting, the subject has again been brought to the attention of the Judicial Council through correspondence between the secretary of the Louisiana State Medical Society and the secretary of the American Medical Association, and the minutes of the House of Delegates of the Kentucky State Medical Association as published in the official journal of that association.

In its report of last year in which the Judicial Council asked the attention of the House of Delegates to the question of vesting this Council with appellate jurisdiction, a review was given of just what had previously been done by the Judicial Council and the House of Delegates in the consideration of according appellate jurisdiction to the Council. That report of the Council definitely stated that when the question had first been presented to the House of Delegates in 1914, there was no qualification of the appellate powers suggested for the Judicial Council, so that had the suggestion then made been adopted, the Judicial might have been required to have considered matters of fact, as well as questions of law and procedure. The question of vesting the Judicial Council with appellate jurisdiction was at that time laid on the table for reference to the several constituent state associations. In the discussion and correspondence which this question elicited, the Judicial Council itself appreciated that it was unwise for the Association to vest the Council with appellate jurisdiction which should cover questions of fact. It was further seen that the majority of state associations were in accord with the suggestions that the Judicial Council be given authority to adjudge an appeal on a question arising in an intrastate controversy, provided this appeal was regarding a question of law or procedure and that questions of fact be confined to the courts of the county and state organizations.

Acting on this information at Detroit last year the Judicial Council again presented to the House of Delegates the recommendation that appellate jurisdiction limited as above suggested to questions of law and procedure but not of fact, be accorded to the Judicial Council and the following paragraph was added to Section 4, Chapter 7 of the By-Laws of the Association:

"In all cases which arise (a) between a constituent association and one or more of its component societies; (b) between component societies of the same constituent association; (c) between a member or members and the component society to which said member or members belong, or (d) between members of different component societies of the same constituent association, the Judicial Council of the American Medical Association shall have appellate jurisdiction in questions of law and procedure, but not of fact."

It was to register their opposition to the House of Delegates investing the Judicial Council with this appellate jurisdiction that the delegates from Kentucky and from Mississippi officially recorded their objection and concerning which the correspondence took place between the secretary of the Louisiana State Medical Society and the secretary of the American Medical Association.

The Judicial Council is convinced that this opposition is based on a misunderstanding of the powers granted to the Judicial Council. The action taken by the House of Delegates does not in any way increase the original jurisdiction of the Council in matters which come to that body primarily and directly without going through any other committee, body or court of the American Medical Association and its component branches. The appellate power tends only to increase the authority of the Judicial Council in requiring fair play and that justice shall be accorded throughout the branches of the Association, down to and including the individual members thereof. The Judicial Council recalls that the delegate from Kentucky, in his remarks preceding the request for an official minute of the position taken by the delegation from that state, cited instances in his own state where, in the heat and anger of personal discussion, prominent members of the profession had been unjustly disciplined because of the personal animosity of the majority vote which was manifestly taken under conditions which did not record the temperate judgment of the organization.

The appellate jurisdiction with which the Judicial Council has been vested will prevent a like failure of justice toward individuals, or toward component societies of a constituent association, or even toward the constituent associations themselves when, in the heated ardor of discussion, a proper and necessary orderly procedure is disregarded and when the contestants fail to accord fair play and to grant to the minority a full privilege of presenting their side of the controvery.

The appellate power vested in the Judicial Council merely established an impartial judiciary, authorized to pass on questions of law and procedure, but not to review the facts on which the cause is based. That is, the Judicial Council simply judges whether or not the previous courts which have tried the cause have given to both parties to the controversy a square deal in an open fight. There is no new power vested in the Judicial Council and there is no desire on the part of any member of the Council that there shall be. There is no intention to assume any power by which the Council can go down into any constituent state association or component society thereof and interfere in any way with the judgment of these societies concerning their membership when such judgment on the part of these branches of the organization is in accordance with the provisions of the constitution and by-laws of these constituent and component organizations. There is no provision for an appeal to the Judicial Council by any one outside the organization. This privilege of appeal is confined to those who are members or who were members of the organization at the beginning of the controversy which is appealed to the Judicial Council.

At the Detroit session, the House of Delegates directed the Judicial Council to investigate the status of the constituent association for Wyoming, and to assist in reviving the activities of that state association or arrange for a new organization in that state. This question was taken up through correspondence with the last reported officers of the Wyoming State Medical Society, as well as the officers of the component district organizations. Considerable interest in this question was manifested, especially on the part of officers of certain of the component societies and through the cooperation of those interested, a general meeting of the physicians practicing in Wyoming was held at Douglas on May 9.

The Judicial Council takes pleasure in reporting that it has been advised that the Wyoming State Medical Society was reorganized under the name of the State Medical Society of Wyoming. The Council recommends that the present organization, the State Medical Society of Wyoming, be recognized as the constituent association of the American Medical Association for the state of Wyoming.

Respectfully submitted.

ALEXANDER LAMBERT, Chairman,
RANDOLPH WINSLOW,
A. B. COOKE,
JAMES E. MOORE,
HERBERT A. BLACK,
ALEXANDER R. CRAIG, Secretary.

Report of Council on Health and Public Instruction

Dr. Frank Billings, Chicago, temporary chairman, read the report of the Council on Health and Public Instruction which was referred to the Reference Committee on Legislation and Political Action.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

The work of the Council during the last year has been necessarily curtailed on account of the limited appropriation due to financial conditions and the increased cost of publishing THE JOURNAL, making necessary the abandonment for the time being of the program of investigation, education and legislation which the Council has followed for the past four years and which was discussed in detail in the reports for 1914, 1915 and 1916. It is hoped that this work can be taken up and carried forward as soon as financial conditions justify the necessary expenditure on the part of the Association.

During the past year, the Council has necessarily confined its efforts to the production of educational material which could be supplied to state boards of health, educational and philanthropic bodies, women's clubs and other similar organizations at a price sufficient to cover the cost of production. The Council report last year showed that from June 1, 1915, to May 16, 1916, the Council had printed and distributed 1,133,500 pamphlets, of which 750,000 were "Minimum Health Requirements for Rural Schools," printed through the cooperation of the Elizabeth McCormick Memorial Fund, the remaining 383,500 pamphlets being miscellaneous educational reprints. During the past year the Council has nearly doubled its output as compared with the preceding year, as Table 1 will show.

In connection with Baby Week the first week of May, about 82 sets of these charts were sold for educational purposes. As this is the only set of such material on the market, there promises to be a steady demand for these charts.

The fact that the Council last year with an appropriation of $15,000 was able to expend $18,097.51 net expenditures, while only $9,666.45 was charged against the Council's appropriation, shows that it is possible to make the educational activities of the Council partially, if not entirely, self-supporting.

Particular attention should be called to the series of seven pamphlets on health insurance prepared by the Special Committee on Health Insurance for the education of members of the organization. The pamphlets are as follows:

Pamphlet I. Workmen's Compensation Laws, from the Report of the Judicial Council of the American Medical Association for 1915.

Pamphlet II. Social Insurance, the Report of the Special Committee of the American Medical Association for 1916.

Pamphlet III. Health Insurance in Relation to the Public Dispensary, by Dr. I. M. Rubinow, New York.

Pamphlet IV. Health Insurance in Relation to Public Health, by Dr. I. M. Rubinow, New York.

Pamphlet V. Social Insurance, by Dr. I. M. Rubinow, New York.

Pamphlet VI. Medical Organization Under Health Insurance, by Dr. Alexander Lambert, New York.

Pamphlet VII. Statistics Regarding the Medical Profession, Compiled by the Committee on Social Insurance.

SPEAKERS' BUREAU

As indicated in the report of the Council for last year, the Speakers' Bureau has been reorganized and put on a different basis, the plan now being followed of requiring local organizations desiring speakers to pay the actual expenses of the speaker incurred in filling the appointment. A revised list of speakers was compiled last summer and fall embracing 255 speakers from forty-five states and the District of Columbia. Fifteen thousand copies of the announcement were distributed to medical societies, women's clubs, state superintendents of education, principals of normal schools, university and college presidents, summer school directors, etc. The Speakers' Bureau now confines its activities to bringing together local organizations and speakers and arranging details. The only expense involved is that of publishing and distributing each year a revised list of speakers.

TABLE 1.—NUMBER AND CHARACTER OF PAMPHLETS PRINTED AND DISTRIBUTED, MAY 16, 1916, TO MAY 1, 1917

Defense of Research, Pamphlet IX. "The Fruits of Medical Research with the Aid of Anesthesia and Asepticism"	1,000
Defense of Research, Pamphlet XVIII. "Obstetrics and Animal Experimentation"	1,000
Conservation of Vision, Pamphlet I. "Schoolchildren's Eyes"	1,000
Conservation of Vision, Pamphlet II. "Industrial and Household Accidents to the Eye"	1,000
Conservation of Vision, Pamphlet IV. "The Relation of Illumination to Visual Efficiency"	1,000
Conservation of Vision, Pamphlet X. "Care of the Eyes"	1,000
Conservation of Vision, Pamphlet XI. "Infant Blindness, or Ophthalmia Neonatorum"	1,000
Conservation of Vision, Pamphlet XIV. "Visual Requirements of Transportation Employees"	1,000
Conservation of Vision, Pamphlet XV. "Ocular Hygiene in Schools"	2,000
Conservation of Vision, Pamphlet XVIII. "Preparations for the Oncoming of Blindness"	1,000
Conservation of Vision, Pamphlet XIX. "What to Do for Blind Children"	1,000
Conservation of Vision, Pamphlet XX. "Blindness from Wood Alcohol"	1,000
Prevention of Cancer, Pamphlet I. "What Every One Should Know About Cancer"	1,000
Prevention of Cancer, Pamphlet V. "Cancer of the Breast"	1,000
Prevention of Cancer, Pamphlet IX. "What Every One Should Know About Cancer of the Stomach"	1,000
Sex Hygiene. "Life Problems"	1,000
Public Health. "Baby Welfare"	5,200
Public Health. "Hookworm"	1,200
Public Health. "House-Fly"	5,300
Public Health. "Measles"	8,300
Public Health. "Pure Water"	1,000
Public Health. "Scarlet Fever"	10,000
Public Health. "Smallpox"	8,200
Public Health. "Tuberculosis"	4,200
Public Health. "Typhoid Fever"	3,200
"What You Should Know About Tuberculosis"	203,100
"Save the Babies"	302,500
"Summer Care of the Baby"	67,000
"Baby Health Conferences"	5,000
Social Insurance, Pamphlet I. "Workmen's Compensation Laws"	1,000
Social Insurance, Pamphlet II. "Social Insurance, the Report of the Special Committee of the American Medical Association for 1916"	2,000
Social Insurance, Pamphlet III. "Health Insurance in Relation to the Public Dispensary"	3,000
Social Insurance, Pamphlet IV. "Health Insurance in Relation to Public Health"	2,000
Social Insurance, Pamphlet V. "Social Insurance"	1,000
Social Insurance, Pamphlet VI. "Medical Organization Under Health Insurance"	1,000
Social Insurance, Pamphlet VII. "Statistics Regarding the Medical Profession, Compiled by the Committee on Social Insurance"	1,000
"Health Essentials for Rural School Children"	55,000
"Our Progress in Medicine"	200
"Public Health Measures in Relation to Venereal Diseases"	3,000
"An Outline for a Study Course on Public Health Prepared for the Use of Women's Clubs"	12,000
"Speakers' Announcement"	15,000
Total	737,400
Score Cards	40,000
Record Sheets	5,000
Anthropometric Tables	5,000
Total	50,000
Grand total	787,400

In addition, a series of exhibit charts on baby welfare have been printed as follows:

Baby Welfare Chart No. I. Birth Registration	1,000
Baby Welfare Chart No. II. Care Before Birth	1,000
Baby Welfare Chart No. III. Nursing the Baby	1,000
Baby Welfare Chart No. IV. What Mother's Milk Did for this Baby	1,000
Baby Welfare Chart No. V. Colds and Pneumonia	1,000
Baby Welfare Chart No. VI. One Death in Five	1,000
Baby Welfare Chart No. VII. Give Us Our Rights	1,000
Baby Welfare Chart No. VIII. Don'ts for Mothers	1,000
Baby Welfare Chart No. IX. Don'ts for Mothers	1,000
Baby Welfare Chart No. X. This Baby Is Happy and Thrives	1,000
Baby Welfare Chart No. XI. This Baby Frets and Is Uncomfortable	1,000
Baby Welfare Chart No. XII. The Difference	1,000
Baby Welfare Chart No. XIII. One of Baby's Worst Enemies	1,000
Baby Welfare Chart No. XIV. Three Things Are Necessary	1,000
Baby Welfare Chart No. XV. Every Day in the Life of This Baby	1,000
Total	15,000

CONFERENCE ON CHILD WELFARE

In accordance with the instructions of the Council, the secretary sent out a call for a conference at the headquarters of the Association, Wednesday, Oct. 18, 1916, at which were invited the executive officers of all national organizations interested in child welfare. Those present included:

United States Public Health Service, Dr. W. H. Frost.

Children's Bureau, Miss Julia Lathrop and Dr. Grace L. Meigs.

Association for the Study and Prevention of Infant Mortality, Miss Harriet L. Leete, Mr. Albert Cross, Dr. S. H. Hamill, Dr. Philip Van Ingen and Miss Gertrude B. Knipp.

American Public Health Association, Dr. W. A. Evans and Dr. Lyman A. Jones.

Elizabeth McCormick Memorial Fund, Mrs. Dunlap Smith and Mr. Sherman C. Kingsley.

General Federation of Women's Clubs, Mrs. F. D. Everett.

American Hospital Association, Dr. John A. Hornsby.

Council on Health and Public Instruction of the American Medical Association, Dr. Frank Billings, Dr. H. M. Bracken, Dr. Lenna L. Meanes, Dr. Velura E. Powell and Dr. Frederick R. Green.

The purpose of the conference was to bring together and coordinate the work being done in the public health field by the various organizations interested in child welfare, in the hope of developing a common program that could be adopted by all the organizations interested. The three propositions put before the conference were:

1. Are there any factors that are of fundamental importance in the development of a program on child welfare, and if so, what are they?

2. Can a plan of campaign be outlined by which the activities of those interested can be united in securing these essentials? If so, what should such a program be?

3. If such a program can be outlined, what part will each organization take in carrying it out?

After lengthy discussion of these questions, the conference appointed a committee on coordination and program to formulate a plan for cooperation between the various organizations interested. The following committee was appointed: Miss Julia Lathrop, Mr. Sherman C. Kingsley, Dr. Philip Van Ingen, Dr. J. W. Kerr, Dr. Lenna L. Meanes and Dr. Frederick R. Green. This committee has been in correspondence since the conference, and will hold a meeting for further consideration of this subject during the time of the New York session.

CHILD WELFARE POSTERS

One of the most important developments of this conference was the practical cooperation of the General Federation of Women's Clubs, the American Association for the Study and Prevention of Infant Mortality, the federal Children's Bureau and the Council on Health and Public Instruction of the American Medical Association in preparing suitable educational material for use during Baby Week, which was observed this year the first week in May. Through the cooperation of the National Association for the Study and Prevention of Infant Mortality and the federal Children's Bureau, a series of fifteen educational posters was prepared, five by the bureau and ten by the Association. These were printed for the Council on the American Medical Association press, furnishing a set of educational charts which have proved extremely valuable, as, at the time that these were prepared, there was no suitable material obtainable for this purpose. In addition to supplying these charts, pamphlets, score cards, record sheets and other material have been printed and furnished in large quantities to the various organizations interested in educating the public in child welfare.

EDUCATIONAL CHARTS ON SCHOOL HYGIENE

The Joint Committee on Health Problems in Education, representing the American Medical Association and the National Education Association, has prepared a series of fifty-five charts suitable for use in exhibits, normal schools, state conferences on education and other occasions, and covering almost every phase of school hygiene. Reduced copies of these charts have been printed in pamphlet form and distributed in a small edition. The charts themselves will be reproduced and made available for educational or philanthropic organizations or institutions desiring material of this sort.

It becomes more and more evident that the real function of the Council is not so much the direct education of the public through its own efforts, such a task being far too great for the resources at our command, but rather the production of authoritative material and the giving of its approval to educational material and methods which can be carried on by other organizations and through various agencies.

COMMUNICATION FROM THE NATIONAL W. C. T. U.

At the Detroit session, the following letter was presented by the secretary of the Association to the House of Delegates, and was by that body referred to the Council on Health and Public Instruction:

To the House of Delegates of the American Medical Association, Detroit, Michigan.

Dear Sirs:—In view of the increasing desire on the part of the nations of the world for relief from the evil effects of alcoholic liquors on society, and in view of the fact that all the warring nations of Europe have found that liquor drinking must be curbed because of its interference with health, efficiency and safety, we, representing 400,000 women, members of the National Women's Christian Temperance Union, respectfully request that your honorable body give expression at this annual meeting of the American Medical Association to such a warning against alcoholic liquors as shall strengthen the hands of boards of health and temperance organizations now combating the liquor evil.

One of the chief causes of the alcohol habit is the ignorance of the mass of the people concerning the real nature of alcohol. They have been taught that alcoholic liquors give health and strength, that they are tonic and remedial. The brewing and whisky trades advertise that their products are foods and tonics and aids to digestion, and that they are endorsed and recommended by physicians the world over. The medical profession owes it to itself and to the public to offset this dangerous and misleading advertising by a statement of the truth.

The medical society of Russia at its meeting in 1915 issued a notable document against alcohol, a copy of which is appended for the information of any of your honorable body who may not have seen it. Your petitioners hope for as strong and helpful an expression from the great American Medical Association as that emanating from your Russian confrères.

Yours sincerely,

ANNA A. GORDON, President.
MARTHA M. ALLEN, Supt. Dept. of Medical Temperance.

The Council has given careful consideration to this communication, and will present to the House of Delegates in connection with its report resolutions for its consideration.

MIDWINTER CONFERENCE

The regular Midwinter Conference was held, Feb. 5 and 6, 1917, in conjunction with the Council on Medical Education, the Federation of State Examining and Licensing Boards and the Association of American Medical Colleges. The second day of the conference was devoted to a discussion of public health instruction in medical colleges in the morning and the state regulation of the practice of medicine in the afternoon. The following program was presented:

STATE HEALTH INSTRUCTION IN MEDICAL COLLEGES, MORNING SESSION, 10 O'CLOCK, FLORENTINE ROOM, CONGRESS HOTEL

Opening of the Conference, Dr. Frank Billings, Chairman of the Council on Health and Public Instruction, Chicago.

"Public Health Training in Medical Colleges," Dr. George E. Vincent, Minneapolis, President, University of Minnesota, and President-Elect, Rockefeller Foundation.

"Public Health Instruction in Medical Schools," Dr. Milton J. Rosenau, Boston, Professor of Preventive Medicine and Hygiene, Harvard Medical School.

Discussion opened by: Dr. Victor C. Vaughan, Ann Arbor, Mich., Dean of the University of Michigan Medical School. Dr. S. J. Crumbine, Topeka, Secretary, Kansas State Board of Health, and Dean of the University of Kansas, School of Medicine.

STATE REGULATION OF THE PRACTICE OF MEDICINE, AFTERNOON SESSION, 2 O'CLOCK, FLORENTINE ROOM, CONGRESS HOTEL

"The State Regulation of the Practice of Medicine as an Executive Problem," Hon. James M. Cox, Columbus, Governor of Ohio.

Discussion opened by: Dr. C. St. Clair Drake, Springfield, Secretary of the Illinois State Board of Health. Dr. David A. Strickler, Denver, Secretary Colorado State Board of Medical Examiners. Dr. William P. Best, Indianapolis, Secretary of the National Eclectic Medical Association.

SPECIAL ACTIVITIES

Owing to the fact that the annual session this year is held in New York and that much of the public interest is unavoidably diverted by the war and kindred topics, it did not seem advisable to undertake the task of furnishing speakers on public health for the New York churches for the Sunday preceding the New York session. Neither did it seem advisable to undertake the holding of a special meeting on public health open to the general public. It is hoped that when conditions have returned to a more normal state, these functions of the Council can be resumed.

OFFICE WORK

From May 16, 1916, to May 1, 1917, the secretary has received 5,031 letters and sent 7,733 letters. Requests for information and the sources from which they have come are indicated in Table 2.

TABLE 2.—SOURCES OF REQUESTS FOR INFORMATION

Source	Number
Attorneys	5
Boards of education	4
Boards and departments of health	64
Clubs	84
Federal departments	19
Hospitals	15
Libraries	85
Life insurance companies	6
Medical societies	14
Ministers	13
Nurses	70
Physicians	467
Publications	35
Universities, colleges, high schools, etc.	109
Y. M. C. and Y. W. C. associations	7
Miscellaneous	1,129
Total	2,126

SUBCOMMITTEES

The reports of the various subcommittees are appended herewith. The members of these committees have labored faithfully and enthusiastically to advance the special lines of work assigned to them, and the results of their labors are herewith submitted for the careful consideration of the House of Delegates and its reference committees.

Respectfully submitted.

FRANK BILLINGS, Chairman,
WALTER C. CANNON,
WATSON S. RANKIN,
HENRY M. BRACKEN,
MILTON BOARD,
FREDERICK R. GREEN, Secretary.

REPORTS OF SUBCOMMITTEES OF THE COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

REPORT OF COMMITTEE ON SOCIAL INSURANCE*

To the Council on Health and Public Instruction:

Your Committee on Social Insurance has published during the past year a study of the statistics of the medical profession of the United States. There has further been compiled by Dr. Rubinow, the executive secretary, a review of all the compensation laws against accidents in the thirty-four states of the Union and also a study of the dispensary question in New York City, being a type of the free medical services given in the large cities of the United States.

In the past two years the committee has reviewed the subject of compensation against accident in the United States and abroad showing, in a short review, the other fields of social insurance as developed in foreign countries.

HEALTH INSURANCE

Last year the committee concentrated its report on health insurance in the various foreign countries and the conditions in the United States which today are tending toward such laws or showing the beginning of these ideas in principle in the United States. Since last June two state commissions—those of California and Massachusetts—have investigated the subject of health insurance and have reported favorably on it. After reviewing the systems of social insurance in foreign countries and considering, after public hearings, the question of the advisability of compulsory health insurance in the state of California, and after taking into consideration the condition of the wage earners of the state and their ability to take care of themselves against the hazard of sickness, the commission states that as a result of these findings and after investigation of the conditions throughout the United States, it has arrived at the conclusion that legislative provision for a state-wide system of compulsory health insurance for wage-workers and other persons of small incomes would offer a very powerful remedy for the problem of sickness and dependency in the state of California. In selecting health insurance as the particular branch of social

* Regarding Invalidity, Old Age and Unemployment Insurance, and a General Summary Concerning Social Insurance.

insurance best adapted for earliest action, the commission was guided by the following considerations:

Health insurance appears logically to be the next step in development after accident compensation. It offers the least actuarial and organizational difficulties as compared with other more complicated branches of social insurance which require provision of substantial reserves. While the grave character of the problem of unemployment cannot be denied, no system of unemployment insurance in California would appear practicable until further measures are taken to reduce the amount of unemployment. Moreover, unemployment insurance is a comparatively new institution with a very limited amount of experience available at present. Old age insurance presents such serious actuarial and financial problems that the commission does not feel in a position to make any recommendation concerning it at this time. Further study of the problem, especially as to the comparative merits of the methods of compulsory insurance and straight old age pensions, would be required. It is claimed, and with some justice, that in both the field of old age and unemployment insurance national action may be necessary; while the problem of dependency due to sickness is largely a local problem amenable to state action.

The commission recommends the following proposed constitutional amendment:

It is hereby declared to be the policy of the State of California to make special provision for the health and welfare of those classes of persons, and their dependents, whose incomes in the determination of the legislature are not sufficient to meet the hazards of sickness. The legislature may establish a health insurance system, applicable to any or all such persons, and for the financial support of such system may provide for contributions, either voluntary or compulsory, from such persons, from employers, and from the State by appropriations. The legislature may confer upon any commission or court, now or hereafter created, such power and authority as the legislature may deem requisite to carry out the provisions of this section. The provisions of this section shall not be controlled or limited by any other provision of this constitution, except the provisions of Article IV thereof, relating to the passage and approval of acts by the legislature and to the referendum thereof.

In considering any compensation at all for accidents or in considering health insurance, there is usually a limit put on the length of time for which a patient can receive care under these laws. In the laws for compensation for injuries from accidents the length of time for which surgical care is given varies greatly, in some states being unlimited, in others only seven or fourteen days. There must always remain a certain percentage of patients who are permanently totally disabled or who are permanently partially disabled. What in this country is termed "partial disability," "permanent partial disability" or "permanent total disability" is, in foreign countries, grouped together under the term of invalidity, and it is insurance against this varying degree of permanent disability that the invalidity insurance has been undertaken. There are two different conceptions of the term "invalidity." In England where at the end of twenty-six weeks' sickness or injury continues, preventing the insured from following his daily occupation, the invalidity insurance pays him half the amount of his regular weekly stipend of cash benefits, giving him 5s. ($1.25) as long as his disability lasts, whether temporary or permanent. The German method is that the sickness and accident are grouped together under one fund for thirteen weeks, and the early weeks of accidents are cared for under the sickness fund. After thirteen weeks, however, the injured by accident are separated from those sick with disease, and the injured are cared for under the compensation law while the sick continue under the sickness insurance for, as a rule, twenty-six weeks. If at the end of this time the patient has not fully recovered so as to be back at work, he then is transferred to the invalidity institutes. These care for him until he has recovered or until he is given a definite invalidity pension.

GERMAN REGULATIONS

The German conception of total permanent disability differs from that of the other continental countries. Article V of the German Invalidity Insurance Law specifies "that a state of invalidity is present when the physical or mental condition of the insured person is such that he is no longer able to earn one-third of that amount which, with due regard to his training and education, persons who are similarly situated and are not incapacitated physically or mentally are customarily able to earn in the same region by their labor."[1] In the rest of the continent invalidity, when it is considered, means that the person is totally incapacitated from work. It is readily seen that the invalidity insurance begins at whatever age a person may be incapacitated by accident or disease at the one end, and at the other end, runs into the permanent incapacity of old age. We shall see later that in the majority of instances old age is considered to be present when a man has reached 70, although a man may obtain an old age pension in some countries at an earlier age.

In considering invalidity in its various degrees, one easily appreciates the fact that in accidents permanent partial disability is of much greater frequency than permanent total disability. According to Rubinow's standard accident tables, it is said there may be expected out of 100,000 accidents 133 cases of permanent total disability and 4,742 permanent partial disabilities. If we take the German standard of total disability as being that which gives a reduction of 66⅔ per

TABLE 1.—SPECIAL TREATMENT PROVIDED DURING FIRST THIRTEEN WEEKS OF DISABILITY

Year	Number of Accident Associations	Cases Treated						Cases in Which Treatment Resulted		Expenditures for Special Treatment	
		Fractures of Bones	Injuries to Eyes	All Other Injuries	Total	In Institutions	Not in Institutions	Favorably	Unfavorably	Total	Reimbursed by Sick Funds
1904	90	2,451	715	7,823	10,989	4,897	6,092	9,916	1,026	$173,148	26,234
1905	93	2,565	706	7,979	11,250	4,971	6,279	10,261	954	184,387	27,195
1906	91	2,627	701	7,706	11,034	5,043	5,991	10,148	869	186,106	30,832
1907	95	2,811	710	7,850	11,371	5,687	5,684	10,481	862	198,483	34,280
1908	91	3,275	741	8,553	12,569	6,439	6,130	11,701	852	$17,777	35,803

The Massachusetts Special Commission on Social Insurance, in its report, states:

The undersigned members of the Commission believed that as soon as there has been adequate consideration of the details of legislation the commonwealth should adopt a general system of health insurance for wage-earners supported by forced contributions from employers, employees and the State and that such legislation is likely to prove of the greatest value in relieving distress and promoting general welfare. We, therefore, submit a statement for the purpose of indicating briefly the need of health insurance and some of the principles which, in our opinion, should be adopted in any health insurance plan.

After submitting these details, the committee ends its report by saying, "We are satisfied, however, that some plan for health insurance should be adopted as an important early step in the interest of social welfare."

During the past winter there have been introduced into the legislatures of fourteen states a definite health insurance bill; that is, in the states of Arizona, Connecticut, Maine, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Utah and Wisconsin. This bill was approximately the tentative draft that was reported by your Social Insurance Committee last June. It differs, however, very essentially in that the medical organization has been more thoroughly worked out in detail. This medical organization was published, in January, in THE JOURNAL of the American Medical Association.

1. Commissioner of Labor, 24th Annual Report, 1909, p. 1365.

cent. and over of the earning capacity, there will be 711 cases of permanent total disability. The author further says that under the effect of disease, rather than injury, coupled with the effect of advancing old age, the number of these latter cases may be still more numerous; nor is the mortality among these partially disabled persons as high as among those totally disabled.

TABLE 2.—GERMAN ACCIDENTS TO INSURED PERSONS
Results of Injury 1886-1908

Year	Average Number of Persons Insured	Number of Persons Compensated for the First Time				
		Accidents Resulting in				
		Death	Permanent Disability		Temporary Disability of Over 13 Weeks	Total
			Complete	Partial		
1886	3,473,435	2,422	1,548	3,780	1,973	9,723
1887	3,861,560	2,956	2,937	8,126	2,061	15,970
1888	4,320,663	2,990	1,869	10 044	3,755	18,988
1889	4,742,548	3,457	2,337	12,998	3,958	22,770
1890	4,926,672	3,686	1,896	16,399	5,040	27,021
1891	5,093,412	3,716	1,604	17,790	5,881	28,991
1892	5,078,132	3,382	1,531	18,472	6,061	29,446
1893	5,168,973	3,080	1,397	20,174	6,775	32,026
1894	5,243,965	3,549	887	20,360	8,743	33,739
1895	5,409,218	3,757	818	19,837	10,376	34,788
1896	5,734,680	4,152	618	20,860	15,039	39,669
1897	6,042,618	4,381	680	21,836	16,004	42,901
1898	6,316,834	4,749	568	22,940	17,873	46,130
1899	6,658,571	4,897	610	24,435	20,458	50.400
1900	6,928,894	5,226	616	25,388	21,674	52,904
1901	6,884,076	5,121	625	26,734	24,292	56,772
1902	7,100,537	4,705	644	27,340	25,938	58,627
1903	7,466,484	4,854	642	28,071	28,411	61,978
1904	7,849,120	5,176	629	29,540	31,407	66,752
1905	8,195,782	5,325	583	29,949	33,837	69,694
1906	8,625,560	5,569	587	30,667	35,847	72,670
1907	9,018,367	6,223	586	30,787	39,121	76,717
1908	8,917,772	6,070	582	29,525	39,653	75,830

AUSTRIAN STATISTICS

It is interesting to study the Austrian statistics on the question of invalidity due to injuries by accident. The greatest proportion of accidents are due to building and construction, being 23.8 per cent. of the total. Next in order are those due to accidents from machinery. In 95,269 cases of accidents, studied in detail according to industries, kind of injury and according to age of those injured, it is shown that 87,810 of these were men and 7,459 were women. There were killed 3,712 men and 159 women, making a total of 3,871 and 4.1 per cent. of all accidents, 4.2 per cent. for men and 2.1 per cent. for women. In addition, 50,530 men and 3,957 women suffered temporary disability, that is, 57.2 per cent. of all accidents, and 33,568 men and 3,343 women suffered some degree of permanent disability, that is, 38.7 per cent. of all accidents. Permanent total disability occurred in 1,104 accidents—980 men and 124 women. Permanent disability was suffered by 4,098 persons—3,623 men and 475 women—to from 66 to 83 per cent. of their earning powers, that is, from the Gunn standard. There were 5,202 accidents which caused total invalidity, that is, 5.6 per cent. of all accidents.

It is further noticeable that in children under 16 years of age the total permanent disability occurred in 2 per cent. of the accidents. From 16 to 20 years this occurred in 1.9 per cent. There was then a steady increase in the percentage as age increased, rising steadily to those over 60 years of age where the permanent disability occurred in 6.2 per cent. of all accidents. This same factor is shown in the temporary disability for under 16; 67.8 per cent. of all accidents were temporary disabilities and the temporary disability percentage falls steadily until over 60 years of age it is in but 40.1 per cent. of all accidents. The reverse percentage, of course, is shown in those suffering from some form of permanent disability, 32.2 per cent. of the accidents occurring in the group under 16 years of age and rising steadily until after 60 years it reaches 53.8 per cent. In comparison by sexes the accidents show that among women permanent disability is more frequent than among men, for 38.2 per cent. of the accidents to men show permanent disability and 44.8 per cent. to women. Temporary disability occurred in 57.6 per cent. of the accidents to the men and 53.1 per cent. to the women. As has already been quoted above, the fatal accidents among women were but half the percentage of those to men, owing undoubtedly to the fact of the exposure of men to the greater risks. These are shown in mass in Table 3.

INVALIDITY IN GERMANY

Invalidity due to sickness is best studied in the invalidity insurance in Germany.[2] Invalidity and old age insurance are compulsory in Germany for all persons whose income does not exceed 2,000 marks, or $276 a year. These persons are practically all those gainfully employed in the population of the empire over 16 years of age. It exempts certain per-

2. Commissioner of Labor, 24th Annual Report.

TABLE 3.—AUSTRIAN ACCIDENTS, BY AGE GROUPS AND SEX, SHOWING AMOUNT OF DISABILITY, 1897-1901

Age Group and Sex	Accidents Resulting in												
	Temporary Disability		Permanent Disability								Death		Total Accidents
			Compensated by the Following per Cent. of Wages										
	Number	Per Cent. of All Accidents	5 and under 8 and under	6 to 11 9 to 18	12 to 19 19 to 32	20 to 29 33 to 48	30 to 39 49 to 65	40 to 50 66 to 83	60 Total Loss of Earning Power	Total	Per Cent. of All Accidents	Number	Per Cent. of All Accidents	
			Percentage Loss of Earning Power										
Under 16 years	2,463	67.8	130	355	200	151	86	152	22	1,096	30.2	74	2.0	3,633
16 to 20 years	8,806	67.4	457	1,362	758	551	291	443	76	3,938	30.2	318	2.4	13,062
21 to 30 years	14,741	62.1	1,017	2,712	1,592	1,237	683	778	179	8,198	34.6	784	3.3	23,723
31 to 40 years	12,415	56.8	871	2,846	1,648	1,235	766	885	241	8,492	38.8	953	4.4	21,860
41 to 50 years	8,901	52.0	676	2,399	1,405	1,164	734	779	218	7,375	43.0	852	5.0	17,128
51 to 60 years	5,213	47.4	359	1,466	1,085	890	550	639	207	5,196	47.2	591	5.4	11,000
Over 60 years	1,948	40.1	119	567	438	532	377	422	161	2,616	53.8	299	6.1	4,863
Total	54,487	57.2	3,629	11,707	7,126	5,760	3,487	4,098	1,104	36,911	38.7	3,871	4.1	95,269
Males	50,530	57.6	3,358	10,704	6,464	5,282	3,157	3,623	980	33,568	38.2	3,712	4.2	87,810
Females	3,957	53.1	271	1,003	662	478	330	475	124	3,343	44.8	159	2.1	7,459
Distribution of Accidents Causing Permanent Disability. Per Cent. of Total													
Under 16 years			11.9	32.4	18.2	13.8	7.8	13.9	2.0	100.0				
16 to 20 years			11.6	34.6	19.2	14.0	7.4	11.3	1.9	100.0				
21 to 30 years			12.4	33.1	19.4	15.1	8.3	9.5	2.2	100.0				
31 to 40 years			10.3	33.5	19.4	14.6	9.0	10.4	2.8	100.0				
41 to 50 years			9.2	32.5	19.0	15.8	9.9	10.6	3.0	100.0				
51 to 60 years			6.9	28.2	20.9	17.1	10.6	12.3	4.0	100.0				
Over 60 years			4.6	21.7	16.7	20.3	14.4	16.1	6.2	100.0				

The two columns in permanent disability of loss of earning power of 66 to 83 per cent. and total loss correspond to total disability or invalidity under the German classification.

sons from the insurance whose compensation consists of maintenance only and certain officials of the empire, and there are certain other exceptions. These people to become entitled to the insurance must have paid the regular dues for a certain period of time designated as the waiting time. For the invalidity pensions the waiting time is 200 weeks, provided that during this time at least 100 weekly contributions have been paid, otherwise the waiting time is 500 weeks. For old age pensions the waiting time is 1,200 weeks of contributions. Time spent in military duty in peace or war or time lost from one's occupation because of sickness, properly attested, is credited as part of the waiting time though no contributions may be paid. There may come under the invalidity and old age pension laws certain persons on the voluntary insurance basis. These are administrative officials, foremen and technical officials, employees in commercial establishments, excepting apprentices, teachers and instructors and ships' officers whose incomes are more than $476 a year and not exceeding $714. There may also come under this voluntary insurance, regardless of the amount of their income, persons engaged in business on their own account and heads of establishments who do not regularly employ more than two wage-workers who are subject to the compulsory insurance, as well as persons engaged in domestic or homeworking industries; also persons whose only compensation for their work is free maintenance or persons who have been exempt from the compulsory insurance because of the temporary nature of their employment. In case of voluntary insurance, benefits for invalidity are granted only after the insured person has paid 100 weekly contributions. The benefits are provided for three types of disability; invalidity or permanent disability, sickness or temporary disability, and old age, regardless of any disability, affecting the insured person's earning power. The invalidity pensions are paid to those persons regardless of their age who become disabled through age, sickness or other cause to such an extent that they suffer a permanent loss of earning capacity greater than one third of their earning ability. The sick pensions are the temporary pensions paid those persons who are sick longer than the twenty-six weeks covered by sickness insurance.

TABLE 4.—NUMBER OF PERSONS ON PENSION ROLLS OF INVALIDITY INSTITUTES

Year	Current Pensions at the Close of the Year			Number of Pensions Granted Each Year		
	Invalidity Pensions	Sick Pensions	Old Age Pensions	Invalidity Pensions	Sick Pensions	Old Age Pensions
1900	405,335	5,118	188,472	124,588	6,463	19,700
1901	480,915	8,709	179,456	129,234	7,391	34,750
1902	574,842	12,145	168,550	141,481	8,695	12,816
1903	663,140	14,186	156,620	150,209	8,977	12,374
1904	734,955	16,985	145,466	142,596	10,517	12,069
1905	780,761	20,140	134,100	124,111	11,833	10,716
1906	814,575	22,097	125,603	111,885	12,569	10,739
1907	841,992	20,079	116,887	112,184	11,537	10,769
1908	868,086	19,087	108,637	117,224	12,209	10,586*
1909	893,585	18,502	102,362	115,264*	12,716*	11,003*

* W. H. Dawson "Social Insurance in Germany."

TABLE 5.—ESTIMATED NUMBER OF PERSONS INSURED AGAINST INVALIDITY AND OLD AGE COMPARED WITH POPULATION OF EMPIRE

Year	Population of Empire			Estimated No. of Persons Insured
	Male	Female	Total	
1900	27,574,000	28,472,000	56,046,000	13,015,100
1901	27,985,000	28,886,000	56,871,000	13,196,600
1902	28,416,000	29,330,000	57,746,000	13,380,600
1903	28,824,000	29,752,000	58,576,000	13,567,200
1904	29,225,000	30,166,000	59,391,000	13,756,400
1905	29,721,000	30,593,000	60,341,000	13,948,500
1906	30,149,000	31,028,000	61,177,000	14,142,700
1907	30,640,000	31,443,000	62,083,000	14,958,118
1908	31,084,000	31,898,000	62,982,000	15,226,000

An invalidity pension is not paid if the claimant has brought the invalidity on himself. If, on the other hand, the invalidity was sustained during the commission of a crime or of a deliberate offense so pronounced by a court of law, the whole or part of his pension may be allowed to his family, if it is living within the empire and dependent on the insured for support. When an insured person reaches 70 years of age and is entitled to an old age pension, he may also at this age be receiving an invalidity pension and be entitled to one. That pension, either invalidity or old age, which is the greater in amount, must be given to the insured at this age. He is entitled to but one. When incapacity is occasioned by an accident, a claim to the invalidity pension is only justified in so far as such pension would exceed the pension due under the accident insurance law.

Under certain circumstances the law formerly required the return to the insured workman of one half the dues paid in to secure the rights under invalidity and old age insurance. Since the introduction of survivor pensions these refunds of contributions according to Dawson have been discontinued. The invalidity insurance is administered by invalidity insurance institutes. These institutes are corporations possessing all the rights and duties of legal persons. Besides the Board of Governors there is a supervisory committee which contains representatives of the employers and employees who serve without pay, and the law also permits the addition of several other persons on the board, such as physicians, insurance experts, and similar persons, whose specialty may be of use in the administration of the institute. There are also special invalidity institutes of the miners, railroads and seamen. These were permitted because these workers already possessed certain types of invalidity insurance when the general invalidity law was passed. The dues of the invalidity insurance are paid by means of stamps which are purchased from an agency of the institute and then pasted on the receipt or membership cards. Each invalidity institute publishes its own stamps which must be used by the persons insured in it. Each insured person is responsible for obtaining his receipt card and responsible for bringing it each week to have the proper stamps affixed. Any failure to obtain a card by an insured person is punished by a fine. The employer is held responsible for the pasting on of the correct amount of stamps, both for the share of the insured person and for his own share. The dues paid must cover the same time as the wage payment, except that if the employee begins a week of service the invalidity insurance week begins on Monday and ends on Sunday, the dues for that entire week must be paid by the employer even if the service continues for only part of a day. Failure on the part of the employer to comply with the requirement means the imposition of a fine. If the insured person loses his right to a pension by negligence of the employer, the employer is liable to a suit for damages. In fact, employers have been required by courts to pay the entire cost of pensions, the right to which was lost through their failure to obey the law. Cash payments are used in certain funds to which the miners and most of the state railway employees belong and both stamps and cash are employed in the marine insurance funds. When the receipt card of the insured is filled with stamps, it must be returned to the local agency and a new card procured. The insured person is required to preserve the certificates covering periods of illness and of military service, and forfeits his rights to include such periods in his waiting time if he cannot produce these certificates at the time his benefits under the law are determined. The number of persons included under the law in 1909 was 15,444,300, 69 per cent. being men and 31 per cent. women. Some 600,000 persons were voluntarily insured.

ADMINISTRATION OF LAW

The bodies which administer the law have two main sources of income—contributions by the insured workmen and their employers in equal amounts and the yearly addition to every pension from the imperial treasury. Both the invalidity and old age pensions are based on the amount of dues paid in and on a basis of wage classes. The wage classes are five in number; viz.: wage class I, annual earnings $83.80 and under; wage class II, $83.80 to $130.90; wage class III, $130.90 to $202.30; wage class IV, $202.30 to $273.70; wage

class V, over $273.70. The law requires the wages or earnings of the insured person to be computed as follows:

In certain of the sick funds 300 times the wage rate adopted by these funds as the basis of collecting their dues; or the wages shall be assumed to be an amount fixed by the local administrative authorities with due regard to the actual average earnings of the insured; or, for seamen, the average earnings shall be specified by the imperial chancellor according to the navigation law; among miners the rate is 300 times the wages as estimated by the board of directors of the fund. For all other persons, unless the administrative authorities fix a higher rate for special occupations, the rate shall be 300 times the average rate paid in that locality for unskilled labor. Instructors, teachers, etc., belong to the fourth class, unless a higher rate is shown to have been received. An insured person may have himself rated in a higher wage class by paying higher dues, but the employer in such case may not be required to pay a higher amount of dues.

All pensions are composed of two amounts—first, the variable amount provided by the invalidity institute and, second, a fixed amount provided by the imperial government. The amount provided by the institute consists of two parts, a basic amount and a supplementary amount. For the old age pensions the amount provided by the institute consists of the basic amount only. It is, therefore, a higher basic amount than that of the invalidity pension. For invalidity and sickness pensions the basic amount varies for the various wage classes as follows: wage class I, $14.28; wage class II, $16.66; wage class III, $19.04; wage class IV, $21.42; wage class V, $23.80. In computing the basic amount of the pensions 500 contributory weeks are always used. If 500 weeks of dues have not been paid, then the number of weeks lacking may be calculated according to wage class I. If more than 500 weeks of dues have not been paid, then the 500 weeks averaging the highest wage payments paid are those used. If the 500 weeks consist of different wage classes, then an average must be taken. After the basic amount of the pension has been computed, the amount is increased by a system of supplementary amounts to determine the number of weeks for which dues have been paid. For each week a supplementary amount must be used: for wage class I, 0.7 of a cent; for wage class II, 4.1; for wage class III, 1.9; for wage class IV, 2.4, and for wage class V, 2.9 cents. The pension, therefore, must consist of the basic sum plus the supplementary increase, plus the imperial subsidy. For further details of the complicated computations necessary, the reader is referred to the twenty-fourth annual report of the commissioner of labor, page 1371.

A further opportunity (according to W. H. Dawson in Social Insurance in Germany) is offered to insured persons supplementing their old age and invalidity pensions by an amount of 25 cents at convenient times. For every supplementary contribution of 25 cents so made, the insurer will, on his claim to pension maturing, receive the sum of one-half cent for every year that has elapsed since the contribution was made. If the supplementary pension should not exceed $15, the beneficiary may require his payment in lump sum payment.

Of the 2,471,265 pensions granted up to Dec. 31, 1910, 75.4 per cent. were granted on account of invalidity, 20 per cent. on account of old age, 4.6 per cent. on account of sickness ending, in most cases, in permanent disablement. On Jan. 1, 1911, of the 1,034,000 pensions in force, 718,760 were for invalidity, 98,335 for old age and 19,965 were provisional sickness pensions. The following table shows the invalidity pensions granted in 1910 according to ages:

TABLE 6

Age	Number of Pensions	Age	Number of Pensions
20 to 24	3,154	50 to 54	10,810
25 to 29	5,262	55 to 59	14,180
30 to 34	5,430	60 to 64	21,408
35 to 39	5,501	65 to 69	21,087
40 to 44	6,182	70 and over	13,866
45 to 49	7,725		114,755

SOURCE OF INCOME

As has already been said, the main source of income of the invalidity insurance in Germany is the contribution from the employers and insured workmen in practically equal amounts. As a matter of fact, with a certain number of workmen voluntarily insured there is a slight increase in favor of the amount paid in by the workmen. In 1908 the funds obtained from interest on their large reserves amounted to about 18 per cent. of the total receipts for that year. The rate of interest obtained by the reserve fund was but 0.0357 per cent. About 17.7 per cent. of the total was put in by the government in its definite stated amount for each pension given. The rest of the funds were practically all contributions. The contributions in 1908 amounted to $68,000,000, the subsidy of the imperial government to $12,000,000, and interest and other receipts to a little more than $12,000,000. Against these receipts that year were charged off $43,000,000 for benefits, about $4,500,000 for administration and other purposes, leaving reserve funds at the end of the year of $354,500,000. The accompanying tables give the income and expenditures more in detail. The whole cost of administration of this huge insurance scheme in 1908 amounted to 9.4 per cent. of the expenditures.

TABLE 7.—SUMMARY OF FINANCIAL OPERATIONS OF INVALIDITY INSURANCE SYSTEM, 1900 TO 1908

Year	Contributions from Employers and Insured Persons, Each Contributing This Amount	Subsidies of Imperial Government	Interest and All Other	Total Receipts	Expenditures			Reserve Funds
					For Benefits*	For Administration and Other Purposes	Total*	
1900	$15,323,679	$7,321,301	$6,354,103	$44,522,702	$22,069,565	$2,676,061	$24,745,626	$201,200,654
1901	16,042,867	8,061,235	7,340,131	47,486,980	22,054,589	2,582,446	27,637,035	221,140,599
1902	16,539,308	9,008,227	8,054,310	50,141,153	28,658,559	2,843,541	31,502,100	239,779,652
1903	17,406,906	9,961,426	8,708,542	53,483,780	32,166,494	3,038,059	35,204,553	258,058,879
1904	18,336,448	10,775,581	9,314,649	56,763,126	35,308,681	3,336,822	38,645,503	276,176,501
1905	19,193,729	11,269,499	9,917,274	59,574,231	37,656,362	3,559,803	41,216,165	294,534,568
1906	20,245,014	11,604,311	10,580,769	62,675,108	39,517,317	3,883,259	43,400,576	313,809,100
1907	21,258,538	11,869,718	11,311,705	65,638,499	41,148,133	4,131,366	45,279,499	334,168,101
1908	21,946,264	12,024,197	12,123,209	68,039,934	43,191,472	4,489,236	47,680,708	354,527,326

* Including the Imperial subsidies.

COST OF INVALIDITY PENSIONS

In calculating the cost of invalidity pensions it is of great importance to know how many individuals of those granted pensions for tuberculosis or sickness or invalidity from any cause are liable to drop out each year. The following table shows the German experience from 1891 to 1899, and the rates given are based on 444,654 cases of invalidity pensions granted in the above years, inclusive. Seventy per cent. of these were men and 30 per cent. women. The number of these pensioners ceasing to receive pensions during the period was 210,482, of which approximately 95 per cent. were due to death, 4 per cent. to recovery and 1 per cent. to other causes.

Following is the discussion of this table in the twenty-fourth annual report of the Commissioner of Labor, from whence it is obtained:

The general tendency shown by the table may be summed up by stating that, except for the three highest ages, the probability of ceasing to draw a pension—of ceasing to be an invalid either through recovery or death—is much greater in the younger ages than in the older.

The proportion of demissions is quite large in the younger ages; at the ages of 20 and 25 approximately one-half of the invalids drop out in the first year; of those in middle age, e. g., 45 and 50, approximately one-fourth drop out in the first year while of those in the ages of 70 and 75, approximately one-eighth drop out in the first year. Of those who are in the second year of the receipt of pensions, in the ages of 20 and 25, approximately one-fourth drop out during that year, in the ages 40 and 45 about 15 per cent. of the second year pensioners drop out in that year, while in the ages 70 and 75 from 10 to 12 per cent. of the second year pensioners drop out in that year. The cause of the high proportion of demissions in the younger ages is stated to be due to the fact that the invalids of the younger ages suffer principally from severe diseases, many of which are likely to end fatally; pulmonary tuberculosis, which is responsible for a large proportion of the cases of invalidity in the younger ages, frequently causes death in a short time. The cases of invalidity in the higher ages include many instances in which there is a gradual deterioration of the physique of the pensioner; these cases usually suffer from sickness of various kinds, in which there is loss of earning power, but their death rate is perhaps not much in excess of the average rate of a standard population.

Considerable difference exists between the rates for the sexes; as a rule the proportion of females dropped from the pension rolls is much smaller than the proportion of males.

The data relating to the proportion of persons ceasing to receive pensions, whose invalidity was caused by pulmonary tuberculosis, show approximately the same tendencies as the data for all cases. The ratio of tuberculous pensioners who drop out is greater for the younger than for the older ages; in the ages 20 to 24 years the proportion of males who drop out in the first year after the pension has been granted is about 80 per cent. and decreases steadily with increasing age, and even in the age 65 to 69 the number of tuberculous pensioners who drop out in the first year after the granting of the pension is only about 39 per cent. The same ratios are found in the case of the females. In general it may also be said that the probability of ceasing to draw a pension decreases with length of time the pensioner has been on the roll; for the males of the age 20 to 24 it is probable that 80 per cent. will drop out in the first year they have been drawing pensions, while of those who have been drawing pensions for nine years only 8 per cent. are likely to drop out.

Data relating to the probability of old-age pensioners ceasing to receive pensions have been compiled for 316,484 persons granted pensions during the years 1891 to 1897; up to the end of the year 1890 about 51 per cent. of this number had dropped out, of whom 72 per cent. were males and 28 per cent. females. The males are therefore more strongly represented among the demissions than among the admissions. The ratio of demissions per 100 pensions granted was 52 males and 48 females. Of the 160,892 demissions 132,446, or about 94 per cent., were due to the death of the pensioner, and 7,791, or about 5 per cent., to the substitution of a higher invalidity pension for the old-age pension, while less than one-half of 1 per cent. was due to miscellaneous causes.

INVESTMENT OF RESERVE FUND

The kind of investments which it is permitted the reserve funds to place are of interest because of certain activities which these investments permit. The following table shows the kind of social betterment endeavors in which these funds are invested and the amounts so invested for 1900-1908:

	1900	1902	1904	1906	1908
(a) Building of workmen's dwellings, homes for workmen, etc.	$18,594,756	$24,620,078	$31,699,579	$41,085,381	$56,975,921
(b) Aids to agriculture, such as land mortgages, branch railroads, road improvements, stock raising, betterments, etc.	13,078,127	16,060,184	17,481,798	18,801,397	22,810,931
(c) Building of hospitals, convalescent institutes, sanatoriums, homes for the blind, etc., building of slaughterhouses, waterworks, sewers, etc.	12,838,763	30,407,727	42,436,354	58,437,691	80,930,960
(b) Building of institutions for use of the invalidity insurance, such as hospitals, sanatoriums, tuberculosis institutes, etc.	2,772,316	5,807,971	7,858,999	9,768,923	12,788,145
Total	$47,283,962	$76,896,560	$99,476,730	$128,093,392	$173,505,857

In 1908 almost half of the investments for that year were invested in building of hospitals, convalescent institutes and sanatoriums, water works, sewers, etc., and one-third of the investments of that year were in the building of workmen's dwellings.

It is thus seen that Germany has used its enormous insurance reserves to attack the tuberculosis problem, both from the sanatorium and the hospital point of view, as well as from the housing of the people at large. They have acted in a logical manner, realizing that the spread of tuberculosis was in a great measure in ratio to the overcrowding of the workmen's homes, and they have endeavored, once the disease has broken out in an individual, to give him the best and most approved modern treatment, determined to bring back the patient to as great a point of economic efficiency as is possible.

PREVENTIVE MEDICINE PROMOTED

Thus it is seen that putting these insurance funds out at a low rate of interest they are turned back into the development of hygiene and preventive medicine of the empire at large. These funds are used in many ways for the same purposes that hospitals and sanatoriums supported by cities and states are used in this country, as well as public funds here appro-

TABLE 8

Age When Pension Was Granted	Per Cent. of Persons Ceasing to Receive Pensions During Each Specified Year After Pension Was Granted											
	1st Year	2d Year	3d Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year	11th Year	12th Year
Males												
20	60.00	35.00	21.30	14.65	10.60	8.00	6.50	5.40	4.70	4.14	3.80	3.68
25	53.70	31.30	19.10	13.20	9.75	7.65	6.27	5.40	4.74	4.24	3.94	3.83
30	47.90	27.80	17.10	11.95	9.14	7.37	6.12	5.40	4.84	4.40	4.13	4.05
35	42.40	24.55	15.15	10.85	8.60	7.15	6.09	5.45	4.99	4.60	4.37	4.34
40	36.95	21.50	13.45	10.00	8.17	7.00	6.09	5.55	5.14	4.80	4.68	4.75
45	31.70	18.50	11.95	9.25	7.89	6.90	6.18	5.65	5.29	5.05	5.17	5.32
50	26.60	15.55	10.50	8.62	7.64	6.90	6.31	5.90	5.70	5.90	6.10	6.30
55	21.65	12.90	9.45	8.13	7.39	6.92	6.50	6.55	6.80	7.10	7.45	7.85
60	17.20	11.10	9.01	8.05	7.60	7.45	7.85	8.25	8.70	9.15	9.60	10.10
65	14.30	10.40	9.21	8.74	9.15	9.60	10.10	10.60	11.15	11.75	12.40	13.10
70	13.10	10.80	10.65	11.15	11.75	12.40	13.10	13.85	14.65	15.50	16.40	17.40
75	13.35	13.10	13.85	14.65	15.50	16.40	17.40	18.50	19.70	21.00	22.40	23.90
80	16.40	17.40	18.50	19.70	21.00	22.40	23.90	25.50	27.20	29.00	30.90	32.90
Females												
20	53.10	22.10	12.60	8.70	6.95	5.60	4.55	3.82	3.32	2.95	2.74	2.68
25	37.70	17.60	10.30	7.10	5.80	4.75	4.00	3.41	3.10	2.85	2.72	2.69
30	27.00	14.00	8.40	6.00	4.80	4.00	3.50	3.14	2.91	2.75	2.71	2.70
35	21.30	11.35	6.90	5.00	4.00	3.50	3.18	2.92	2.79	2.70	2.71	2.73
40	17.30	9.50	5.86	4.40	3.78	3.39	3.10	2.86	2.80	2.79	2.83	2.89
45	14.25	8.20	5.24	4.18	3.70	3.36	3.16	3.03	3.03	3.11	3.19	3.29
50	11.70	7.26	4.92	4.10	3.72	3.45	3.35	3.38	3.50	3.62	3.76	3.92
55	9.70	6.48	4.79	4.15	3.85	3.76	3.92	4.10	4.30	4.50	4.75	5.00
60	8.00	6.05	4.95	4.50	4.50	4.75	5.00	5.20	5.60	6.00	6.45	6.05
65	7.18	6.17	5.00	5.65	6.00	6.45	6.95	7.50	8.10	8.75	9.45	10.20
70	7.35	7.20	7.50	8.10	8.75	9.45	10.20	11.00	11.85	12.80	13.80	14.90
75	9.30	10.20	11.00	11.85	12.80	13.80	14.90	16.10	17.40	18.80	20.30	21.80
80	13.80	14.90	16.10	17.40	18.80	20.30	21.80	23.40	25.10	26.90	28.80	30.80

priated for city and state departments of health. They are used to finance public improvements, and yet bring back into the insurance scheme again a definite revenue to meet the obligations of the pensions, and for further reinvestment in public works. In this manner Germany has used these funds to finance a great crusade against certain sicknesses, such as tuberculosis. In fact, it is through the funds of the invalidity insurance that Germany's tuberculosis crusade has in the main been supported.

In the cities of Germany, in 1880, the death rate from tuberculosis of the lungs per 10,000 of the population was 34.6 per cent. This has decreased until in 1909 it was 17.9 per cent. In American cities, at the same time, in 1880, the death rate from tuberculosis of the lungs was 32.1 per cent. and has diminished in 1909 to 17.5 per cent. Tuberculosis of the lungs is responsible for 15 per cent. of the total disability annuities granted to males and 9.5 per cent. of those granted to females under the German invalidity insurance. This is better emphasized by quoting from the statistics of Frederick L. Hoffman, in a bulletin of the United States Bureau of Labor, on the "Care of Tuberculous Wage Earners in Germany, 1912." In 1896-1899 the proportion of annuities paid to males on account of tuberculosis of the lungs, at the ages of 20 to 24 was 54.9 per cent.; from 25 to 29, 50.9; from 30 to 34, 33.9; from 35 to 39, 36.7. The proportion for females was from 20 to 24, 42.6 per cent.; from 25 to 29, 24.3; from 30 to 34, 25.8; from 35 to 39, 20.3.

In 1895 the invalidity insurance institutes possessed one sanatorium. By 1909 there were thirty-seven in full activity, and in 1911 there were ninety-nine, and these, as has been said above, were built mainly out of the funds provided at low rates of interest from the invalidity reserves. Thirty-eight of these sanatoria were actually owned and supported by these institutes.

TUBERCULOSIS

It is interesting to see that the standard of results of the treatment of tuberculosis in Germany is reckoned on the economic results obtained, judging from the ability of the wage earner treated to perform at least one-third of his former work and to earn at least one-third of his former wages. If this is obtained, it is reckened that the patient has been restored to his earning capacity, unless he is otherwise stated as being restored to his full earning capacity. Hoffman quotes Bielefeldt[3] as stating that of 100 tuberculous male annuitants in the experience of German invalidity insurance institutions, at the ages of 25 to 29, there survived at the end of one year only seventeen, and after four years only four, so that in all probability the maximum duration of the disease in moderately advanced cases entitling the insured to a disability annuity would be less than five years. The results obtained, therefore, as shown by the special study of the earning capacity after five years of the patients treated in the sanatoria is of great interest.

In judging of tuberculosis statistics one must understand standards on which various stages of the disease are judged. As far as these German statistics are concerned, the Turban-Gerhardt standard has been taken; that is, the first stage of the disease is when the disease is of slight severity limited to small areas of one lobe, that, for instance, in case of infection of both apices, does not extend beyond the spine of the scapula and the clavicle or the affection of one apex frontal, beyond the second rib. The second stage is when the disease is of slight severity, more extensive than stage one, but affecting at most the volume of one lobe or, severe disease, extending at most to the volume of one-half lobe. The third stage is of cases extending beyond stage two and all such with considerable cavities. By disease of slight severity is to be understood disseminated foci manifested by slight dulness, unclear, rough or weak vesicular, vesicobronchial or bronchovesicular breathing and fine and medium râles; by severe disease, compact infiltration recognized by great dulness, very weak bronchovesicular or bronchial indefinite breathing with or without râles, considerable cavities to be recognized by tympanitic sound, amphoric or cavernous breathing, and extensive, coarse, consonating râles come under stage three. Pleuritic dulness if only of a few centimeters' extent is to be left out of account; if of considerable extent it should be specifically mentioned under tuberculous complications. The stage of disease is to be indicated for each side separately. The case as a whole is to be classified according to the more diseased side. For example, if the right side is in the second stage and the left side the first stage, the patient must be considered in the second stage.

In 1912, it is stated by Hoffman, there were calculated to be from 1,000,000 to 1,300,000 tuberculous patients treated in Germany. In choosing those to be treated in sanatoria, it is, of course, necessary to choose the ones who it is believed will be the most benefited and to turn the hopeless ones to the hospitals. An endeavor is made to obtain as many so-called incipient cases as possible. From 1896 to 1901 there were admitted in the first Turban stage of the disease 4,657 males and 1,043 females. In the second Turban stage 3,202 males and 877 females. Designated as between stages one and two, there were 2,984 males and 875 females. In the third Turban stage there were 2,363 males and 502 females, and between the second and third stages designated there were 1,745 males and 469 females. As far as could be ascertained, the intensity of the disease was not in proportion to the length of time since it had been first recognized. About 11 per cent. of the men and 9.6 per cent. of the women had previously had treatment in sanatoria. The following table is the duration of treatment of these patients:

Duration of Treatment	Males		Females	
	Number of Cases	Per Cent.	Number of Cases	Per Cent.
6 to 8 weeks	1,501	9.5	307	7.7
8 to 10 weeks	1,760	11.1	352	8.8
10 to 12 weeks	3,442	21.8	751	18.8
12 to 14 weeks	4,877	30.9	1,540	38.5
14 to 16 weeks	1,307	8.3	312	7.8
16 to 20 weeks	1,593	10.1	390	9.8
20 to 26 weeks	794	5.0	230	5.8
Over 26 weeks	528	3.3	116	2.9
Total	15,802	100.0	3,998	100.0

It is evident from this table that about one-third of the patients underwent treatment of from twelve to fourteen weeks, and more than half the patients were treated from ten to fourteen weeks. The average duration of treatment was 89.2 days for males and 94.4 for females. Certainly not a long stay if one would expect to have permanent cure and permanent arrest of the disease; 45.3 per cent. of the male patients and 30 per cent. of the female patients showed tubercle bacilli in their sputum during treatment; 29.8 per cent. of the males and 22.5 per cent. of the females still retained this bacteriologic evidence of the disease in their expectoration on discharge; 6.7 per cent. of the males and 29.5 per cent. of the females were absolutely free from any expectoration during their entire stay in the sanatoria. It is evident, therefore, that the average length of time that the patients were kept in these sanatoria was not sufficient to prevent many of them becoming a public menace on their discharge, for, according to the statistics, only 15.5 per cent. of the men who showed bacilli in their sputum on admission, and 7.5 per cent. of the women had ceased to show these bacteriologic evidences of disease on their discharge.

A medical summary of the results from 1896 to 1901 is given by Hoffman as follows:

> The average duration of treatment of 15,869 male and of 4,008 female patients was 89.2 and 94.4 days, respectively.
>
> The patients were almost exclusively of the wage-earning element of the nation, or 99.4 per cent. in the case of males and 85.1 per cent. in the case of females.
>
> The cost of treatment was in most cases provided for by the invalidity insurance institutions, or other institutions and funds established to carry out the German compulsory insurance laws. Of the male patients, 86.2 per cent., and of the female patients, 79.2 per cent., were provided for at the expense of compulsory social insurance institutions.
>
> Of the male patients 44.6 per cent. were of the age period 20 to 29 years, and of the female patients 57.8 per cent. Of the male patients 30.1 per cent., and of the female patients 17.6 per cent., were of the age period 30 to 39 years. The large majority therefore were admitted

3. Bull. U. S. Bureau of Labor, Care of Tuberculous Wage Earners in Germany, 1912.

for treatment at a period of life when the economic and social value of health is a matter of most serious concern to the individual and to the State.

Over one-half of the patients—that is, 54.4 per cent. of the males and 54.6 per cent. of the females—were admitted to treatment in the same year in which the symptoms of the disease were first recognized.

The general condition of the patients on admission was good in the case of 32.9 per cent. of the male and 28.2 per cent. of the female patients. It was medium in the case of 36.8 per cent. of the male and 31.7 per cent. of the female patients; and, finally, it was bad in the case of 30.2 per cent. of the male patients and of 40.1 per cent. of the female patients. The general condition was improved during treatment in the case of 57.5 per cent. of the male and 59 per cent. of the female patients.

The sputum of patients was ascertained with certainty to contain the tubercle bacillus in the case of 45.3 per cent. of the male patients and of 30 per cent. of the female patients. Of this group of patients, separately considered, 34.4 per cent. of the males and 25 per cent. of the females were free from tubercle bacillus on discharge.

The seriousness of the disease, or the degree of lung impairment, as determined by the Turban stage of the disease, was as follows:

Of the male patients, 31.3 per cent., and of the female patients 28.4 per cent., were in stage I of the disease, and 19.9 per cent. of the males and 22.9 per cent. of the females were in stage I-II of the disease. Of the patients in stage II of the disease, the proportion of males was 21.3 per cent. and of the females 23.1 per cent., and in stage II-III, 11.7 per cent. and 12.5 per cent., respectively. The proportion of patients in stage III, or the far-advanced stage of the disease, was 15.8 per cent. for males and 13.2 per cent. for females.

Only one lung was affected in the case of 25 per cent. of the male and 19.7 per cent. of the female patients. Of these, 62.6 per cent. and 63.1 per cent., respectively, had the right lung affected, and 37.4 per cent. and 36.9 per cent., respectively, had the left lung affected.

A cure, from a medical point of view, was obtained in the case of 12.7 per cent. of the male and 15.3 per cent. of the female patients. A material improvement, including the cured cases, was obtained in the case of 50 per cent. of the male and 48.9 per cent. of the female patients. A relative improvement was secured in the case of 34.2 per cent. of the male and 26.8 per cent. of the female patients, and 10.3 per cent. and 17 per cent., respectively, of the patients remained unchanged. In the case of 5.1 per cent. of the male and 7.1 per cent. of the female patients the condition on discharge was worse than on admission, but the percentage of deaths during the period of treatment was only 0.4 per cent. for male patients and only 0.2 for female patients.

An economic result, with entire restoration of earning capacity, was obtained in the case of 76.9 per cent. of the male and 73.7 per cent. of the female patients, but in addition thereto 13.4 per cent. of the males and 12 per cent. of the females had their earning capacity partially restored to them, while only 9.3 per cent. of the male patients and only 14 per cent. of the female patients were unsuccessfully treated from an economic point of view.

During the year 1912 the Imperial Board of Health published a supplementary report on the results of sanatorium treatment for the period 1902 to 1904, which confirms in all essentials the experience data for 1896 to 1901. The results of this supplementary investigation are briefly summarized, as follows:

The statistical investigation includes 34,071 male and 12,632 female patients treated and cared for on account of tuberculosis of the lungs, with an average duration of treatment for males of 86.6 days and for females of 95.8 days.

The cost of treatment was provided for by social insurance institutions in the case of male patients to the extent of 85.4 per cent. and of female patients to the extent of 85.4 per cent. and of female patients to the extent of 75.7 per cent.

Of the male patients 44.3 per cent. and of the female patients 59.3 per cent. were of the age period 20 to 29 years, and of the male patients 21.8 per cent. and of the female patients 18.8 per cent. were of the age period 30 to 39 years.

A parental history of tuberculosis was ascertained in the case of 25.2 per cent. of the male patients and of 36.7 per cent. of the female patients. Tuberculosis among brothers and sisters was ascertained in the case of 19.6 per cent. of the male patients and of 24.4 per cent. of the female patients. In addition thereto, in the case of 2.6 per cent. of the male patients and of 2.9 per cent. of the female patients, respectively, the wife or the husband was ascertained to be tuberculous. The proportion of families with tuberculous children was only 0.5 per cent. in the case of male patients and only 0.4 per cent. in the case of female patients.

About two-thirds of the patients, or 61.9 per cent. for males and 64.7 per cent. for females, entered the sanatorium during the year in which the disease first became apparent.

The general condition of patients on admission was apparently good in the case of 23.1 per cent. of the males and of 20.7 per cent. of the females. The condition was average in the case of 49.5 per cent. of the males and of 42.6 per cent. of the females, and the condition was bad in the case of 27.4 per cent. of the males and of 36.8 per cent. of the females. An improvement in the general condition during the period of institutional treatment took place in the case of 64.2 per cent. of the male and of 66.1 per cent. of the female patients.

The bacilli of tuberculosis was bacteriologically ascertained to be present in the case of 35.1 per cent. of the male patients and of 21.8 per cent. of the female patients. As a result of treatment 33.4 per cent. of the male patients and 29.4 per cent. of the female patients were free from bacillary evidences on discharge.

Of the male patients on admission 37.3 per cent. were in the first Turban stage of the disease, 46.2 per cent. in the second, and 16.5 per cent. in the third. Of the female patients 51 per cent. were in the first Turban stage, 37.4 per cent. in the second, and 11.6 per cent. in the third. In the case of 23.3 per cent. of the male patients and of 24.8 per cent. of the female patients only one lung was affected with the disease on admission. The right lung only was affected in the case of 67.5 per cent. of the male patients and of 65.7 per cent. of the female patients.

A complete cure was obtained on discharge in the case of 4.5 per cent. of the male patients and of 6.7 per cent. of the female patients. An improvement in the condition of the lungs was secured in the case of 86.7 per cent. of the male patients and of 81.7 per cent of the female patients, and of these, in the case of 27 per cent. and 23.1 per cent., respectively, the improvement was so decided that there was a change to a more favorable Turban stage of the disease. In only 6.3 per cent. of the male patients and in only 8.8 per cent. of the female patients was there no change in the condition of the lungs during treatment. The proportion of deaths during treatment was only 0.3 per cent. for male patients and only 0.2 per cent. for female patients.

A complete economic result—that is, restored wage-earning capacity—was obtained in the case of 53.9 per cent. of the male patients and of 60 per cent. of the female patients. But, in addition thereto, in the case of 28.6 per cent. and of 24.2 per cent., respectively, a fairly satisfactory economic result was secured—that is, restored wage-earning capacity of limited extent for a reasonable period of time.

The comparative statistical facts for the investigations of 1896 to 1901 and 1902 to 1904 are conveniently summarized below:

COMPARATIVE RESULTS OF TREATMENT FOR TUBERCULOSIS IN GERMAN PUBLIC SANATORIUMS

	1896 to 1901		1902 to 1904	
	Males	Females	Males	Females
Number of patients	15 869	4,008	34,071	12,632
Average duration of treatment.....days	89.2	94.4	86.6	95.8
Ages on admission:				
Under 20 years.....per cent.	10.5	20.4	8.5	16.6
20 to 29 years.....per cent.	44.0	57.8	44.3	59.3
30 to 39 years.....per cent.	30.1	17.6	21.8	18.8
40 years and over.....per cent.	15.4	4.4	15.4	5.3
Tuberculous parents .....per cent.	26.4	36.7	25.2	36.7
Tuberculous brothers and sisters..per cent.	16.5	21.2	19.6	24.4
Previous duration of disease less than one year.....per cent.	54.4	54.6	61.9	64.7
Previous sanatorium treatment of at least six weeks.....per cent.	9.8	8.2	16.9	12.3
Good nutrition on admission.....per cent.	17.9	18.0	19.1	18.9
Average nutrition on admission..per cent.	48.9	44.5	51.2	50.5
Poor nutrition on admission.....per cent.	33.2	37.5	29.7	30.6
Gain in weight.....per cent.	93.6	92.3	95.9	94.1
Average increase in weight.....pounds	13.0	11.5	14.6	12.8
Physical condition on admission:				
Good .....per cent.	32.9	28.2	23.1	20.7
Average .....per cent.	36.8	31.7	49.5	42.6
Poor .....per cent.	30.2	40.1	27.4	36.8
Physical condition during treatment:				
Improved .....per cent.	57.5	59.0	64.2	66.1
Unchanged .....per cent.	40.1	38.4	34.0	32.4
Worse .....per cent.	2.4	2.6	1.8	1.5
Cough and expectoration on admission .....per cent.	91.1	65.7	92.0	65.0
Cough only .....per cent.	4.5	18.5	3.3	17.6
No cough and expectoration on discharge .....per cent.	22.8*	26.2*	26.3*	32.7*
Bacillary diagnosis positive on admission .....per cent.	45.3	30.0	35.1	21.8
Bacillary diagnosis negative on discharge .....per cent.	34.4†	25.0†	33.4†	29.4†
Fever on admission.....per cent.	13.8	19.4	14.5	14.9
No fever on discharge.....per cent.	68.6‡	63.3‡	71.9‡	57.3‡
Night sweats on admission.....per cent.	29.8	27.3	25.4	18.3
No night sweats on discharge....per cent.	90.7§	85.2§	91.7§	85.8§
Turban stage on admission:				
First .....per cent.	31.3	28.4	37.3	51.0
Second .....per cent.	52.9	58.4	46.2	37.4
Third .....per cent.	15.8	13.2	16.5	11.6
One lung affected.....per cent.	25.0	19.7	23.3	25.8
Condition of lungs on discharge:				
Improved .....per cent.	84.2	75.7	91.2	88.4
Stationary .....per cent.	10.3	17.0	6.3	8.8
Worse .....per cent.	5.1	7.1	2.2	2.6
Deaths .....per cent.	0.4	0.2	0.3	0.2

* Of those having cough and expectoration on admission.
† Of those showing positive bacillary diagnosis on admission.
‡ Of those having fever on admission.
§ Of those having night sweats on admission.

The preceding tables show the percentage of those who received full treatment who were discharged with restored earning capacity and who retained their earning capacity at the end of specified years subsequent to their discharge from 1897 to 1905.

The increasing improvement of per cent. of living and active from 1897 to 1905 is very striking. It is also seen from these tables that the percentage of the results to women is better than to the men, probably due to the less severe labor to which they are subjected and also to the

diminished amount of alcoholic excesses in which they are apt to indulge.

The total cost of treatment and care for all causes for the period of 1897 to 1899 was $35,989,774. Of this sum $23,739,340 was paid out for the treatment of tuberculosis, which was 66 per cent. of the expenditures on account of all diseases, including tuberculosis. Of the total number of male patients treated 48.7 per cent. were on account of pulmonary tuberculosis and 36.5 per cent. of the female patients were treated for the same disease.

Since 1897 the number of persons treated and cared for in special institutions owned or controlled by the state invalidity insurance institutions has increased nearly tenfold. In 1909, 42.4 per cent. of all persons treated and cared for were treated for pulmonary tuberculosis, and of these 98.4 per cent. received full systematic and largely indoor or special institutional treatment. Experience has shown that only by such treatment can the required economic results be obtained. Hoffman further states that the considerable financial expenditures on this account are justified by the fact that pulmonary tuberculosis, according to the investigations of 1896 to 1899, held the third position as the primary cause of invalidity among the men and the second position among the women insured with the German state invalidity insurance institutions. Ten years later, between the years 1905-1909, 97,392 males were treated for pulmonary tuberculosis and 43,542 females in whom the disability was removed or arrested. This was at an expense of $13,500,000 and represented 81.8 per cent. of the men and 84.3 per cent. of the women treated. During the same period 21,624 men and 8,116 women were unsuccessfully treated and the tuberculous lesions not arrested nor the disability removed. This was at an expense of $4,100,000 and represented 18.2 per cent. of the men and 15.7 per cent. of the women. The average duration of those in whom the disease was removed or arrested was seventy-six days for men and eighty-four days for women, at an average expense of $101.09 for men and $84 for women. Those in whom the disease was not removed remained under treatment on an average of forty-seven days for men and fifty-five days for women and at an average expense of $61.02 for men and $55.14 for women. The economic results are further shown by taking the year 1905, in which 81.3 per cent. of the men and 83.2 per cent. of the women treated for pulmonary tuberculosis were discharged with restored earning capacity, and at the end of five years, that is, at the end of 1909, 44 per cent. of the men and 52 per cent. of the women still retained their earning capacity. This is all the more striking since we are justified in assuming from the German statistics that without such systematic and effective treatment the large majority of patients would have died from the disease within two years from the date of attack. These patients who still at the end of five years

NUMBER AND PER CENT. OF PATIENTS RECEIVING FULL TREATMENT WHO WERE DISCHARGED WITH RESTORED EARNING CAPACITY AND WHO RETAINED THEIR EARNING CAPACITY AT END OF SPECIFIED YEARS SUBSEQUENT TO DISCHARGE, BY SEX, 1897 TO 1905

Number of Males

Year of Discharge	Discharged with Restored Earning Power	Retaining Earning Power at end of year												
		1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
1897	1,760	1,542	1,032	703	705	633								
1898	2,812	.....	2,529	1,488	1,355	1,157	1,043							
1899	4,476	.....	.....	3,854	2,719	2,235	1,919	1,738						
1900	6,117	.....	.....	.....	5,434	3,905	3,185	2,807	2,299					
1901	8,272	.....	.....	.....	.....	7,390	5,476	4,591	3,766	3,069				
1902	9,437	.....	.....	.....	.....	.....	8,574	6,601	5,547	5,190	4,665			
1903	11,763	.....	.....	.....	.....	.....	.....	10,807	8,396	7,396	6,555	6,152		
1904	13,341	.....	.....	.....	.....	.....	.....	.....	11,847	9,926	8,547	7,820	7,216	
1905	15,516	.....	.....	.....	.....	.....	.....	.....	.....	13,904	11,348	9,786	8,683	7,871
		Per Cent. of Males[1]												
1897	67.7	61	42	29	28	25								
1898	73.9	..	67	44	37	31	28							
1899	74.2	..	..	67	48	39	33	30						
1900	72.5	..	..	..	66	48	40	35	30					
1901	76.5	..	..	..	..	70	53	45	38	32				
1902	77.4	..	..	..	..	..	72	57	48	44	40			
1903	78.8	..	..	..	..	..	..	73	59	51	46	43		
1904	78.7	..	..	..	..	..	..	..	73	61	53	48	44	
1905	81.3	..	..	..	..	..	..	..	..	76	63	54	48	44
		Number of Females												
1897	497	465	348	231	252	225								
1898	811	.....	751	464	441	409	399							
1899	1,220	.....	.....	1,082	801	690	636	589						
1900	1,920	.....	.....	.....	1,735	1,308	1,167	1,010	848					
1901	2,977	.....	.....	.....	.....	2,045	2,173	1,822	1,546	1,245				
1902	3,448	.....	.....	.....	.....	.....	3,184	2,537	2,121	2,048	1,894			
1903	4,284	.....	.....	.....	.....	.....	.....	3,892	3,171	2,854	2,629	2,519		
1904	5,293	.....	.....	.....	.....	.....	.....	.....	4,692	4,072	3,654	3,475	3,196	
1905	6,272	.....	.....	.....	.....	.....	.....	.....	.....	5,581	4,749	4,285	3,831	3,608
		Per Cent. of Females[1]												
1897	67.5	64	50	35	36	32								
1898	73.5	..	69	49	43	39	38							
1899	73.2	..	..	67	51	43	40	37						
1900	72.4	..	..	..	67	52	46	40	35					
1901	77.4	..	..	..	..	72	60	51	45	39				
1902	80.1	..	..	..	..	..	76	62	54	50	47			
1903	82.2	..	..	..	..	..	..	77	64	57	53	50		
1904	81.2	..	..	..	..	..	..	..	76	66	59	55	51	
1905	83.2	..	..	..	..	..	..	..	..	78	67	60	55	52

1. In calculating the percentages of those receiving full treatment who retained their earning power to the end of the specified periods after discharge, cases lost sight of, that is, uncontrolled cases, have been deducted from the numbers representing persons receiving full treatment.

retain their earning capacity sufficient at least to provide in part for their own support are of the greatest economic value to the state even though the cost of treatment may be somewhat larger than the direct financial gain to the insurance institutions on account of diminished payments in the form of disability annuities. Hoffman concludes that "neither in the official reports nor in the general literature of the subject is there anywhere sufficient statistical or other evidence to prove conclusively that the efforts made to bring about restored earning capacity of invalid members have paid a full return on the money invested in special institutions and the annual disbursements in behalf of patients and their immediate dependents. In course of time no doubt such proof will be forthcoming and considering that the entire plan of compulsory social insurance rests primarily, not on financial but on general considerations of public welfare, it is self-evident that the efficacy and value of the system cannot be tested solely by reference to the annual balance sheets of the institutions individually considered, or even on the basis of their aggregate experience." It seems thus evident whether from the economic viewpoint or from that of hygiene and sanitation and the general health and welfare of the race that the enormous funds necessary successfully to combat tuberculosis are justified and usefully employed.

It is with difficulty, in considering any scheme of invalidity, that one can separate it from the inevitable invalidism brought on by the approach of physiologic old age. This comes sooner to some men than to others, and the actual number of years that have passed over the heads of men do not designate an even failure of their mental or bodily vigor. To some the invalidity comes early and to others it does not arrive until late. But the circumstances of overwork, of overtime, of the hard unending lives of toil that men in huge industrial nations undergo bring on an earlier deterioration from old age than the three score years and ten that our fathers knew when, as agricultural patriarchs, they still were able to dominate their families and be recognized as the head of the gatherings of their children and their grandchildren.

EXPENDITURES FOR TREATMENT AND CARE OF INVALID MEMBERS OF GERMAN STATE INVALIDITY INSURANCE INSTITUTIONS DURING 1909, BY SEX

Expenditures on Account of	Amount	Per Cent.
Tuberculosis of the lungs, full treatment:		
Males	$2,816,610	48.75
Females	1,063,652	18.41
Tuberculosis, temporary or partial treatment:		
Males	2,720	0.05
Females	1,322	0.02
All other diseases, full treatment:		
Males	1,098,034	19.00
Females	612,943	10.61
All other diseases, temporary or partial treat.:		
Males	97,384	1.69
Females	84,923	1.47
Total on account of tuberculosis	$3,884,204	67.23
Total on account of other causes and diseases	1,893,284	32.77
Total expenditures for all causes	$5,777,588	100.00

Old Age Insurance

The methods of social insurance by which ample provision is made for old age are diverse, and again we come to the voluntary insurance, state subsidies, compulsory insurance and, casting insurance methods aside, direct pensions given by the state without contributions from the beneficiaries. As in all forms of social insurance, the voluntary contributions have never been successful in building up a scheme which has adequately attained the object for which it was formulated. Youth is not willing to accept the idea that it must give up its present pleasures that it may be cared for years hence in an old age that it may never reach. Many of the countries, such as France and Belgium, have had to give up their voluntary systems and turn to subsidized and compulsory methods. The Scandinavian countries have done the same. Germany, as we have already seen, has used both subsidy and compulsion. Other countries, such as Great Britain, have cast aside all idea of insurance or the group principle of protection, which is the insurance system itself, and given an out and out old age pension. After considering it again and again for over fifty years, the English came to the conclusion that the simplest method was to use the ability of the state, through taxation, to obtain its funds and that the workman was worthy of his hire, as he had faithfully given his labor and the results of his labor through his life to the state and the community, and that as a reward of his labors he deserved his pension. This is the most common point of view in establishment funds and in countries where social insurance is not highly developed, as in the United States.

The old age problem of today is not that of our ancestors when the country was on an agricultural basis. In the majority of instances today the question is one of an industrial basis and the problems of the family have greatly altered. The obligation of parents to children has remained, but the obligation of the struggling, underpaid child endeavoring to build a family of his own or her own and also sustain the unproductive parent who, through old age, has ceased to bring in any economic asset and has become really an economic burden to the family, is a vastly different problem. We not infrequently see the best years of vigorous youth sacrificed to the care of the parents, and while we honor it and admit it as a high type of filial duty and filial self-sacrifice among those on whom the pinch of poverty does not come or does not come excessively, when the economic situation of the family is such that necessity demands that each member shall bring in his quota of revenue to keep the family together, then sad as it is, we must realize that for the good of the state and the community the vigorous young wage earners should be relieved of the burdens that unremunerative old age put on them. "The problem here is that of poverty caused by inability to find employment, because the productive power has waned and waned not temporarily but forever."[4] Preventive medicine and sanitation have increased the average length of life, and although because of a high infant mortality it is said that the average length of life is but thirty-five years and that the average wage earner must not expect to reach old age and therefore need not make any provision or look for any provision to be made for him, this does not put the problem fairly or truthfully. The American Experience Tables of Mortality, compiled fifty years ago, understate the improved expectations of life today and yet these tables show that of all men who have reached the age of 30 nearly three fifths may expect to reach the age of 65, at which time they may expect to have eleven more years of life, and of the same men at 30 nearly one half survive at 75 and are still justified in the hope that there is an even chance for eight and one-half years longer existence. The American Fraternal Orders show that ten to fifteen years of life over 65 is practically a certainty to more than one half the wage earners. The American statistics show that in 1880 the number of persons 65 years old and older constituted 3.5 per cent. of the population; in 1890, 3.9 per cent.; in 1904, 4.2 per cent., and in 1910, 4.3 per cent. Considering it from an occupational standpoint, the number of persons over 65 years of age per thousand of men over 15 years of age has increased from 54 in 1880 to 60 in 1890 and 63 in 1910; but among males gainfully employed over 15 years of age persons of 65 years and over, constituted only 50 per thousand in 1890 and 47 per thousand in 1900. The number of old men, therefore, has been increasing in this country, while the proportion gainfully employed has been decreasing. It is further shown that in some employment, such as agriculture, old age does not make so much difference and 6.1 per cent. of the men employed were over 65 years of age; in the professions 5.5 per cent.; in manufacturing and mechanical pursuits only 3.5 per cent., and in trades only 3 per cent. As men grow old, moreover, they are shifted to more unskilled occupation, as is shown by the fact that among unskilled labor the percentage of males over 65 is 12 per cent. and among railroad employees 5 per cent.

4. Rubinow, I. M.: "Social Insurance."

MASSACHUSETTS COMMISSION

The Massachusetts Commission on Old Age Pensions found that the average age at which the wage earning power was lost in the case of those wholly incapacitated, was 68 years; the age at which the earning power was impaired, in the case of those partially incapacitated, was 64. These averages are based on returns for 870 and 822 cases, respectively. The average ages of loss or impairment of earning power as given indicate that the normal pensionable age, falling between the limits of 64 and 68, is not far from 65.

The census of 1910 showed that there were 6,216,674 persons over 60 years of age in the United States, as shown in the following table:

60 to 64 years	2,267,150
65 to 69 years	1,679,503
70 to 74 years	1,113,728
75 to 79 years	667,302
80 to 84 years	321,754
85 to 89 years	122,818
90 to 94 years	33,473
95 to 99 years	7,391
100 and over	3,555
	6,216,674

Squier states that there were approximately 1,250,000 former wage earners who have reached the age of 65 years in want and are now supported by charity, public or private, and are calculated by him on the investigation made by the Massachusetts Commission, as shown in the accompanying table:

DEPENDENT POPULATION SIXTY-FIVE YEARS AND OVER

	In Massachusetts (Determined by the Mass. Commission)	In the United States (Estimated by Mr. L. W. Squier)
In correctional institutions	556	15,180
In insane asylums and hospitals	1,961	53,544
In almshouses	3,480	95,128
In benevolent homes	2,598	71,024
By public outdoor relief	3,075	83,996
By private outdoor relief	2,312	63,112
By United States pensions	27,230	744,188
	41,212	1,123,172

The Massachusetts Commission[5] further found that of the aged poor studied, 22.9 per cent. were able bodied, 61.6 per cent. were wholly incapacitated and 15.5 per cent. were partially so. It further found that their physical condition was defective through being aged and infirm in 26.9 per cent., through chronic diseases in 32.4 per cent., through so-called rheumatism in 23.1 per cent., and 13.3 per cent. were crippled and deformed. There were 3.8 per cent. incapacitated through blindness, and the insane, epileptic and feeble-minded totaled 6.3 per cent.

PROBLEMS OF THE PRESENT AND THE FUTURE

In considering any insurance scheme for the help of old age there are two situations which must be faced: one is, what is to be done in the immediate present with those already old and already poor and those who, in a few years, must face the destitution of poverty and old age combined? This is an entirely separate question from that of what are we going to do in the future when the vigorous youth of today will reach the period of their declining power and ability to go on with their economic self-support. Old age insurance, even though compulsory and universal, even though combined with invalidity, as in France and Germany, had to face these two problems and make provisions for the present in the early days of their laws by practical old age pensions and instituted old age compulsory insurance for the future. Old age pensions may continue either on the sliding scale of England or the outright definite scale of France, providing for both present and future at one time.

When the British Act of 1908 granted pensions to those of 70 years of age, it was expected that 386,000 persons would be entitled to this pension. During the first year of the application of the Act the applications rose to 667,000 so that in their population of 44,000,000 nine per thousand were over 70 years of age and had an income of less than $2 per week, and this in addition to some 414,000 paupers in poor houses and other public institutions. As the total number of persons over 70 years was approximately 1,250,000, it shows that nearly 1,080,000—or 86 per cent.—of the men and women of that age needed relief. In Germany, in 1891, the first year of granting old age pensions and invalidity pensions, the number of pensions for old age were 132,926, while the invalidity pensions were thirty-one. In 1892 the invalidity pensions were 17,784 and the old age pensions 42,128. In ten years, in 1902, the old age pensions had dropped to 12,816 and remained at just below this level, while the invalidity pensions had risen to 141,481. Thus in the beginning the old age pensions were 11.5 per thousand insured. In 1908 there were but 1.3 per thousand insured, which is probably the normal yearly average for Germany. Squier places the old age situation thus:

> It is notable that, after the age of 60 has been reached, the transition from non-dependence to dependence is an easy stage—property gone, friends passed away or removed, relatives become few, ambition collapsed, only a few short years left to life, with death a final and welcome end to it all—such conclusions inevitably sweep the wage-earner from the class of hopeful, independent citizens into that of the helpless poor.[6]

Let us take up then, in detail, what the various countries abroad have done to meet this situation.

OLD AGE PENSIONS IN GERMANY

Beginning with Germany, the old age pensions of Germany are provided for from the same funds as the invalidity insurance of which we have just spoken. In 1908 there were some 166,000 old age pensions in force. The pensions are calculated on a similar basis to that of the invalidity pensions and based on the same five classes of wages at the regular sum of $11.90 annually from the government for each pension. The insured must, however, have paid his dues for 1,200 weeks and the dues thus paid, if in different wage classes, must be averaged in computing the pension. If he has been sick or in military service, the weeks in which he has not paid dues shall be counted as part of his 1,200 weeks of service. During the transition period, from the time the law was enacted until the first twelve hundred weeks should be up—that is, until the year 1914—it was provided that old age pensions should be paid to those insured persons who had paid more than 400 weeks of dues, and the figure 400 was used in the computation instead of 1,200. In 1909 the weekly contributions of the employers and employees were increased slightly. In wage class I, from 3.3 to 3.8; in class II, from 4.8 to 5.7; in class III, from 5.7 to 7.1; in class IV, from 7.1 to 9; and in class V, from 8.6 to 10.9. This was due to the introduction of the widow and orphan insurance which provided "adequate provision for dependent survivors in case of the death of the insured."

The German system, therefore, is practically a compulsory contributory old age insurance in which, with the stated amount of a subsidy and with the entire management of the administration by the state, the expenses of the insurance are borne pretty nearly equally between state and employer and employee.

OLD AGE PENSIONS IN AUSTRIA

Other countries have taken up, not the universal compulsory old age and invalidity insurance such as Germany, but the compulsory insurance—either old age or invalidity—for special classes or special industries. In Austria, miners' provident funds have existed since 1280, but the first uniform regulation of the funds was in 1854 when the mine owners were forced to create special societies for their employees, providing benefits in case of sickness, accident or invalidity, whether from old age or other causes. In 1889 this law was finally amended so that each society must have two funds separately administered, one fund for the payment of sick and funeral benefits and another fund for pensions to members invalided through sickness, accident or old age, as well as the widows and orphans of deceased members. The bene-

5. Report of the Massachusetts Commission on Old Age Pensions, Annuities and Insurance.

6. Squier, L. W.: "Old Age Dependency in the United States," p. 28.

fits under the sick and funeral benefit funds must not be less than those paid by the general laws for similar benefits. The pension for permanent total disability, whether caused by invalidity, sickness, old age, or industrial accident, must not be less than $40.60 for men and $20.30 for women members. Pensions are granted only for total disability. There are no pensions for permanent partial disability. Widows were to receive an annuity payable until remarriage or death, or at least one-third the pensions due the husbands. One sixth annuity is paid to each legitimate child up to the completion of the fourteenth year or, if both parents were dead, this pension was one third of what the deceased father was receiving or which he could have claimed had he been permanently invalided, but the total sum received by the widow and orphans could not surpass three fourths of the entire pension of the deceased member. The employers and the employees provided equal contributions to this fund, except in the case of the employees receiving over $500 a year when they must bear the whole expense themselves. Both the pension and the sickness funds must accumulate reserve funds in manner regulated by law.

In 1906 Austria[7] also passed a law providing against invalidity and old age and granting pensions to widows and orphans of office employees and clerks and other salaried employees. This law has been in operation only since 1909. All office employees between the ages of 18 and 25 whose annual earnings are between $120 and $600 are obliged to insure. The insurance is given for this amount only and the few whose wages fall below $120 are classed with the workingman proper for whom other invalidity laws were being planned.

A waiting period of 120 contributory months is fixed for the invalidity pensions, as well as for pensions to widows and orphans. For the old age pensions the waiting period is 480 contributory months. The invalidity pensions are composed of two parts: the first, known as a basic sum, varies with the class of insured from $36 in class I to $180 in class VI. The second sum, considered a bonus, begins with the end of the waiting period and varies with the class to which the insured belongs during the period between the close of the waiting time and the period of invalidity. The old age pension is of the same nature and is paid on reaching the limiting age, at the end of the longer waiting period, without the necessity for showing incapacity. Widows receive one half the pension the husband would have enjoyed. Orphans receive one third in case of death of one parent and two thirds in case of death of both parents. But the sum of all pensions must not exceed the maximum for the man himself. Should the total pension be twice as great as the basic sum for which the deceased was entitled, after paying for 120 months, the amount may be settled by one payment. If death ensues during the waiting period, the widows and orphans receive a settlement instead of the pension. The four lower classes of employees pay one third the premium, employers paying two thirds. The upper two classes, the employer and employee each pay half. Employees whose income is more than $1,440 pay the entire premium themselves. Premiums are on the capitalized value plan—that is, sufficient contributions are collected to set up a capitalized value for each annuity at the date it becomes a liability, and average from $1.20 to $6 monthly, depending on the class. The only state contribution is that of $20,000 a year for management expenses. Administration is in the hands of the central pension office at Vienna and the general representative of employees and employers in equal proportions, the chairman being appointed by the state.

OLD AGE INSURANCE IN FRANCE

France has a special compulsory old age insurance for mining, sea faring and railroading. The insurance of seamen against old age invalidity is one of the oldest examples of compulsory old age insurance in France. With the exception of a few months during the French Revolution, it has been in continuous operation since 1673. The final modification into the present law dates from 1908. The registered French seaman is entitled to a pension after 300 months' service, when he reaches the age of 50 years. If he becomes so disabled that he cannot serve on board a vessel, he can be pensioned before reaching this age. A commission determines his disability. Seamen serving on the high sea in high sea navigation or fishing must pay 5 per cent. of their wages toward this fund. Certain classes of seamen in costwise trade and fishing pay fixed monthly dues which serve as a limit for the dues of the same grade who contribute 5 per cent. of their wages. Ship owners are required to pay an amount equal to three fifths of the amount paid by their employees; proprietors employing foreign seamen are taxed 8 per cent. of the wages of such seamen or three fifths more than the fixed contribution paid by certain classes of seamen. Registered seamen who navigate their own boats are exempt from the proprietor's contributions, likewise their widows and orphans under 16 years of age, if they own a boat.

These pensions are graded according to the class, from first class masters through subordinate officers in vessels of the fisheries and piloting service down to ordinary sailors. A partial pension is granted to registered seamen who have served at least 180 months, of which at least 100 months were spent on board of commercial or fishing vessels, who, in the opinion of the commission, have become incapacitated for sea duty. This pension is calculated on the rate of $\frac{1}{300}$ of the minimum rate for each month of service of the full pension, plus the supplementary allowance of $11.58 per annum. The widow receives a pension if the husband was drawing a pension at the time of his death and if the marriage took place two years before the seaman had become entitled to a pension, or if the marriage took place two years before he ceased his sea service and has already served 300 months. A childless widow must be at least 40 years of age before being entitled to a pension. If she has children, her age is not considered. If she is divorced, she has no right to a pension. Remarriage forfeits the widow's pension, if the second husband is drawing a pension. If the second husband dies or is divorced, the widow's former rights are revived. Widows in need receive an annual pension of $19.30, even if not receiving pensions and not divorced if their husbands died at sea or after fifteen years of service, even if these had elapsed before the promulgation of the present law. Widows receive, in addition, a supplementary payment of 77.2 cents per month for each child under 13 years of age. If the deceased seaman leaves children of another marriage, or illegitimate children, they are entitled to a portion of the widow's portion, not exceeding in the aggregate one half the regular allowance. If the seaman leaves no widow or if the widow dies or is disqualified, the children under the age of 16 receive the widow's pension, even if there is but one child. As soon as one of a number of children reaches the age of 16 his share is distributed among those remaining under that age. The pensions granted are quite high compared with other pensions in France. They vary between $69.48 and $115.80, and for widows between $46.32 and $61.76. The seamen funds also help support seamen's homes, hospitals, schools, etc. It has paid large sums of money into the general state treasury from its funds and again has received large subsidies from the state.

Another group of workmen protected by compulsory old age insurance in France is that of the miners. All workers and salaried employees of mines, regardless of sex, are subject to the law. This includes underground workers and workers in industrial operations which, according to the law, are dependent on mining operations, and workers in establishments affiliated with mining establishments. Employees engaged in clerical work, office work or occupations directly connected with the mine are subject to the obligation to insure. The cost of this insurance is divided equally by the employer and the workman. The amount of the pension obtained from the payment of these two parties is increased by an annual subsidy from the state and the National Retirement Fund acts as a central body administering the insurance. The amount of the pension also depends on the amount of contributions paid in. The old age pension in this case begins at 55 years of age. Because of invalidity, the right

7. Frankel and Dawson: "Workingman's Insurance in Europe."

to a pension may begin at an earlier age. Under the rules of the National Old Age Retirement Fund the pensions are computed on the system of alienated capital. That is, there is no payment back to his heirs on the death of the pensioner. But the law permits the insured person to have his own share of the payments accorded to him on the reserve capital payment—that is, the amount of contributions of the employee can, at his option, be paid back to his heirs on his death.

These old age pensions to miners are calculated on the hypothesis that they begin at the ages of 13, 14 or 15 years, are regularly paid, and on a basis of earnings of the higher grade of workmen for 36 years, the employee paying 4 per cent. of his wages previous to marriage and 3 per cent. after marriage. A hypothetical average for the married workman at the age of 55 is $73.40. A hypothetical single worker paying 4 per cent. of his earnings would average about $90.34. On Dec. 31, 1897, there were 313 establishments subject to the law in which 164,776 persons were insured in the National Old Age Retirement Fund. It often happens that workmen leave the mine to obtain employment in a factory or for other reasons leave no address and in 1902 there were over 50,000 accounts to which no claim was made.

The railroad pension funds were made compulsory for all large railroad systems Jan. 1, 1911. This covers nearly 300,000 persons with their wives and children. The law is limited to the larger railroad systems, about six systems in all, and provides for half salary after twenty-five years of service and attaining an age varying between 50 and 60 years, according to the class of service, reduced invalidity pensions after fifteen years of service and even without any length of service qualifications if invalidity is due to the service, and half pensions to widows and orphans, contributed by employees equal to 5 per cent. of their earnings and the rest contributed by the railroads. If an employee leaves the service, after fifteen years of membership, for any reason except his invalidity, he is entitled to a pension maturing at the same time at which it would mature if he had remained in the service, but computed according to the actual length of service—that is, with a reduction of 2 per cent. of the average salary for each year of membership below 25. If an employee separates from the service before fifteen years of membership in the fund or service, he is not entitled to any pension but may claim the repayment of the deductions from his own salary, with interest accrued. If, however, these deductions have been used for deposits in the National Old Age Retirement Fund or in the National Death Insurance Fund, then the employee must receive his deposit book or his policy instead of a cash payment. This amount is doubled in case of an employee who is adjudged an invalid, either by the administration of the railroad or by the Retirement Commission, because of illness, injuries, or infirmities which did not result from service, if he must retire before fifteen years of service. If an employee dies after having been granted a pension, his widow is entitled to half that pension for life, and if there be no widow, the orphans under 18 years of age receive that pension. If the employee dies while still in service, the widow or orphans receive half of the pension to which the deceased employee was entitled on the day of his death, calculating on his length of membership and his age. The widow loses her right for pension in case of divorce or separation due exclusively to her fault, and the marriage must have taken place at least three years before the separation from the service. If death was due to an accident while in service, the above requirement of duration of marriage is waived, or if at the time of separation there was a child born of that marriage.

The actual amount contributed by the employees of the railroads is equal to 12 or 15 per cent. of the total revenues. The railroad's share is 50 to 55 per cent. and the remainder is from interest on funds and miscellaneous sources.

A general compulsory old age insurance law passed in France, in 1910, endeavored to embrace the entire uninsured field of employment. It, however, makes two forms of insurance—the compulsory and the optional. Under the compulsory system are included employees, of both sexes, in all fields of industry, in commerce, in liberal professions, agriculture, domestic employees, state employees not covered by the provisions of the civil or military pensions, and employees of departments and communes. The exceptions, however, are employees whose individual earnings exceed 3,000 francs—that is, $579—or if the insured person's earnings exceed that amount his name is taken off the roster of the insured, although he does not thereby lose any of the rights acquired hitherto. There are also excepted the employees of state railroads, miners, and seamen, as has been described above; employees of the secondary railroad companies of general importance, of local railways and tramways are also excepted, if the provisions of these systems are not less favorable than those of the new law. Also existing old age pension systems for the benefit of state employees not subject to the general civil and military pensions may be preserved and similar systems created. This is also true of the departmental and communal employees. This law, therefore, of 1910 endeavored to protect all employees that had not hitherto been covered.

The optional system of this law is extended to share tenants of agricultural land, cash tenants, independent farmers, artisans and small employers of labor, thus including agriculture and the lower middle classes. It is also extended to employees whose annual earnings were over $579 and not over $965 and to wives and widows of persons insured, either by obligation or voluntarily, under the law. The compulsory contributions and the optional contributions of the insured and the compulsory contributions of the employers and subsidies from the state form the revenue for this insurance. The amounts contributed by insured employees are $1.74 a year for the adult male and $1.16 for the adult female and 87 cents for minors under 18 years of age. If the employee can prove that he is already a member of the Mutual Benefit Society or of a Provident Society paying old age benefits, or that he has purchased or contracted for the erection of a dwelling for himself and family or for the purchase of a small piece of landed property, then he is allowed by this law to continue to apply his personal contributions under this law to the same object without in any way disqualifying him from obtaining the employer's share of such subsidy. The employer must pay an equal amount as the employee, and this, of course, must be borne exclusively by the employer. Foreign workmen residing in France are included under this law, but the contributions of the employers are not accorded to them unless by international agreement similar privileges are granted to French workmen in each country. In absence of such treaty, employers' contributions are paid into the reserve fund. The subsidy granted by the state is a life annuity, beginning, normally, at the age of 65 and amounting to $11.58 a year. The waiting time for the insured is at least thirty years. If the number of payments is less than thirty but over fifteen, the government subsidy is computed at the rate of 1½ francs, or 29 cents, for each paid up year. The two years compulsory military service are counted in as paid up insurance. This old age insurance is assumed to be on the alienated capital plan—that is, without requiring the reimbursement of premiums paid in case of death. The insured, however, have the option to change this to the reserve capital plan in so far as his own contributions are concerned—that is, these shall be paid to his heirs in case of his death, but this does not apply to the contributions of the employers.

NORMAL AGE OF RETIREMENT

The normal age of retirement is 65 years, which is five years earlier than the German or English standard and a reduction of five years from the former French compulsory law.

In calculating the actual value of the pension, it naturally depends on the age, sex and other actuarial considerations except the definite subsidy of the state fixed by law. The law permits the existence of many different insurance institutions and there may be considerable difference between the results obtained as between one fund and another. All this, however, is under the approval of the Minister of Labor and the Minister of Finance, which probably prevents too great

a variation of individual pensions. This law definitely prescribes that the charges for the cost of administration shall not be loaded on the computed rate. These are met by special contribution from the reserve fund amounting to 19 cents per each insured person and 5 per cent. of the sums collected by the various old age insurance agencies to cover the collection and transmission of the funds. If this is insufficient, a special appropriation in the budget to the Minister of Labor must be made. This amounts to an additional subsidy from the government to the system of old age insurance. At any time between the ages of 55 and 65 an insured person may demand a liquidation of his pension, but its amount is correspondingly reduced and a corresponding reduction is also made in the amount of the state subsidy. The law further provides that when the pension which is to mature at the normal age of 65 exceeds $34.74, or 180 francs, the insured person may at any time, after a successful medical examination, obtain the cash value of the additional pension, provided he is to use it for one of the following purposes: life insurance or the purchase of land or a home.

The invalidity insurance of the Act occurs under the possibility of anticipatory liquidation of the pension—that is, to persons suffering from total and permanent disability due either to grave injuries or other invalidity, without fault of their own, if they are not covered by the provisions of the accident law, immediate liquidation of their pensions is possible no matter what their ages. They are also entitled to a special invalidity subsidy, the actual amount of which is not finally settled by law. Only the maximum limits are stated in the Acts. The state subsidy shall not in these cases exceed $11.58 per annum nor shall it increase the pension more than three times the amount liquidated on actuarial principles nor make it more than $69.48 per annum, including this subsidy.

DEATH BENEFITS

The death benefit under this law is paid in the following manner and only in case of death, before the liquidation of the pension, not in case of the death of the pensioner. If the widow survives without children under 16 she is entitled to receive $9.65 a month for three months. If one child under 16 survives, $9.65 is paid for four months; if two children under 16 survive, the same monthly benefit is paid for five months; and if three or more children survive, the same amount is paid for six months. The death benefit thus varies between $28.90 and $57.90.

ADMINISTRATION OF OLD AGE PROTECTION

The situation, of course, had to be faced that a certain number of persons would be beyond the age that would enable them to pay the full number of years' contributions before they came to 65 years of age. That is, for all those who were 35 years of age or over when the law went into effect, the requirement of 30 annual payments before they had earned the state subsidy of $11.38 was waived. Only as many annual payments are required as the number of years lapsing from the time the law went into effect until the pension is due. It was required, however, to show proof that for at least three years before the law went into effect these persons had belonged to the class of persons covered by the law.

To persons over 45 years of age at the time the law went into effect, the above privilege was not thought sufficient as they had only twenty years or less in which to caluculate the basis of their pension. Therefore, in these cases, the subsidy of the state was increased. That is, at 45 years instead of $11.58, $11.97 was granted and with steadily increasing amount for each year, until at 64 years the subsidy was 100 francs instead of 60, or $19.30 instead of $11.58. All persons over 70 years of age had been cared for by the Compulsory Old Age Relief Act of 1905, leaving only those persons between 65 and 69 between the two systems of 1905 and 1910. These, by special provision, had the benefits of the law of 1905 extended to them but limited to one half the normal relief under this law, the maximum relief for these cases being put at $19.30 a year.

The duty of collecting the contributions of employees under the law is placed on the employer. The employees are provided with annual stamp cards and the employer must, on each day, paste sufficient stamps representing the combined value of his own and the employees' contributions. The insured person is permitted to paste stamps representing optional contributions. Under the voluntary insurance of this law the persons here insured belong to the classes having no employers and therefore they do not receive the benefits of the employers' contributions, the pensions being made up, therefore, by their own contributions and the state subsidy. An exception, however, is made in the case of share tenants in which case the proprietor of the land is required to contribute an equal amount. There is a certain latitude in the amount allowed in the voluntary contributions for cash tenants, independent farmers, artisans and small employers; the payments must not be less than $1.74 nor more than $3.47 a year. For share tenants the annual payment must not be less than $1.16 a year and an amount equal to their contribution, but not exceeding $1.74 a year, must be paid by the proprietor. The state subsidy is computed differently than under the compulsory form of insurance. Instead of a definite pension after maturity being given, an annual increase to the account of the individual is provided for which must equal one third of the payments made, to be paid in in the form of alienated capital. The same limit of $11.58 is provided, however, and after the pension values of all increases made by the state amount to that sum, further subsides are not granted. During the transition period, persons voluntarily insured must be over 40 years old to enjoy the special privileges.

Independent farmers, artisans and small employers over 40 years of age at the time the law goes into effect are to receive supplemental subsides which shall be equal to the pension purchasable by annual payments of $1.74. As a rule, in compulsory insurance, when the payments expected cannot be paid in full, the subsidy is correspondingly increased. According to a complicated provision, the voluntarily insured of the farmers, artisans and small employers, who are 40 years old or more when the law went into effect, belonging thus to the transitory period, by paying 38 francs a year, or $3.48, which equals the amount the workmen have to their credit, including their own and their employers' contributions, may thus obtain the benefits of the special schedule of subsidies as given above, as beginning at 45 years and increasing steadily up to 65 years of age. It is possible in this law to change from the compulsory to the voluntary class and the subsidy to which the person is entitled may be increased by his voluntary insurance, although not above the limit established by the compulsory form.

Luxemburg has an old age insurance which follows closely on the German plan. Roumania, Sweden and the Netherlands are the other countries in Europe which have attempted to solve the old age problem by the compulsory method in recent years, although in 1885 Italy had an old age insurance scheme in railroading, and Russia in 1888, protected the railroad employees by the same method. The other countries of Europe have endeavored to solve the old age problem by, first, voluntary subsidized methods of insurance which, in France and Belgium, were administered through a national bank with a state guarantee. In both countries this brought about an abundant protection of the thrifty middle class of small incomes and some of the best paid working classes, but it did not by any means cover the distress of the workers who really needed the most protection. They could not be induced by voluntary contributions to store up from their meager pay enough to sustain their old age. Even among those that endeavored to do so, many ceased to contribute after a certain length of time and even those who continued, only enough was contributed to make certain to acquire the state subsidies. It seems that the workmen are forced to reduce the amount of the old age pension in order to protect the health of their families in every day life, and even those that acquire pensions, they are found to be distressingly small in amount. These facts remain true even though, as in the case of Belgium, the insurance wa

more and more heavily subsidized by the state. The failure, therefore, of the voluntary subsidized plan of insurance, both in Belgium and France, led France, in 1905, to give the compulsory old age insurance equivalent to certain outdoor relief to persons 70 years old, and five years later to have the general compulsory old age insurance as has been described.

Voluntary old age insurance and its results and possibilities are best seen in France and Belgium. In France this idea has been under consideration since the first Republican Assembly, in 1794, passed a decree creating a system of investments and insurance against old age and sickness. This, however, did not continue long. It was not until 1850 that the Old Age Retirement Fund was finally passed. This fund was designed to offer an opportunity to all working people to save some of their earnings and to enjoy the full benefit of the principal and interest in the form of old age pensions. The capital of the fund is described as consisting of voluntary deposits of 5 francs—that is, 96.5 cents—or multiples thereof, made by persons over three years of age and continued until death or retirement. The amount and frequency of these deposits, within certain limits, were left entirely to the option of the depositor. The age of retirement was fixed at from 50 to 60 years, according to the option of the depositor, earlier retirement being permitted in cases of disability.

Choice between two kinds of insurance was given. One was on the alienated capital plan of an annuity when he reached the age of retirement, but no other claim on the amount deposited. The other was the reserve capital plan by which the insured not only received the annuity but his heirs, in case of death, received the amount actually deposited, without interest. This fund was open to all and therefore attracted a large proportion of persons who were not of the working classes. There was no limit placed on the amount of deposits that could be made in any one year. The interest rate on which the pensions were calculated was 5 per cent. and the miximum pension for which deposits could be made was $115.80. This was an excellent opportunity for many small trades people and small capitalists to make a profitable investment, and for the first two years of its existence the fund was flooded with deposits of this character. Two years later the rate of interest was reduced to 4.5 per cent. and the amount of deposit to $386 within one year to the credit of any one individual. Finally, ten years later, the annual deposits were increased to $772 and the maximum purchasable pension to $289.50. It was finally realized that while the operations of the funds were considerable, they appealed mainly to government employees, railroad employees and small property holders and that it did not appeal to the wage earners, for neither the minimum deposit of 96.5 cents nor the maximum of $772 was in harmony with their interests. In 1886 the minimum deposit was reduced to 19.3 cents and saving cards were introduced, which made very small deposits possible by means of postage stamps. The maximum amount to be deposited in one year was reduced from $772 to $193, and the maximum pension was reduced to $231.60. The legal rate of interest necessary to pay was changed to 4 per cent. and finally down to 3.5 per cent.

The Act of 1886 also provided for subsidies in case the pensions liquidated before the age of 50 because of old age or infirmities leading to invalidity, but this remained a dead letter practically until 1891 and even then the appropriations of that year amounted to only $7,720 for this purpose. It was not, however, until 1895 that a fund was formed from the sale of the crown jewels that these invalidity subsides actually acquired importance. These new subsidies to old age pensions were not confined only to the depositors of the National Old Age Retirement Fund, but were extended to members of mutual benefit societies or other voluntary associations granting retirement pensions. The subsidies under this law are granted only to persons who do not have any income exceeding $69.48 and who have been contributing either to the National Retirement Fund or any other organization granting old age pensions for twenty-five years, not necessarily consecutively. During the transitory period, which expired in 1905, this period of twenty-five years was reduced pro rata and the retiring age was settled at 65. This National Old Age Retirement Fund also possesses the function of receiving from employers of labor or from their insurers lump sum payments of capital sufficient to provide for payment of pensions due employees or their dependents on account of industrial accidents, as provided in the Workmen's Compensation Law of 1898. Deposits may be made in favor of any person over 3 years of age living in France, whether citizen or foreigner. Minors under 16 years of age require authorization by the father, mother or guardian or, in their absence or in case of their prevention, by a justice of the peace. Married women may make deposits without consent of their husbands and regardless of the terms of the marriage contract. Payments made before marriage remain to the credit of the person who made them. All deposits made during marriage by either party are credited to both husband and wife, each receiving half, even when one of the parties has entered on the enjoyment of a pension. Neither party can deprive the other of this benefit nor renounce the share of the deposit in favor of the other. Deposits made by intermediaries must state specifically whether the capital should be alienated or reserved. When the first payment is made by a depositor, this depositor must declare whether the capital is to be alienated or reserved. In any case all moneys revert to the retirement fund if unclaimed within thirty years after the death of the depositor or if there are no legal heirs. Future deposits may also be changed from alienation to reserve, or vice versa. Moreover, if a depositor has contracted for reserve capital insurance, he may at any time alienate any or part of such capital in order to augment his pension. A third party who deposits money as reserve capital to constitute a pension for another must indicate whether or not the beneficiary shall have the privilege of alienating such capital in order to increase his pension. A person entitled to an old age pension to begin before he is 65 years of age may, in the three months preceding the payment of the pension payments, postpone the time of beginning in order to increase the pension, not, however, beyond the legal maximum limit. The annual pension which any one person may receive can not be less than 38.6 cents nor greater than $261.60. In case of injury or illness completely disabling the person from earning a living, the pension may be liquidated before the age of 50 and the amount of the pension is correspondingly reduced. Such premature pensions may be augmented by an amount to be fixed by a superior commission, in no case, however, to exceed $69.48. The following table shows the amounts of annual pension payable for deposit of $100 by age of depositor and plan of insurance:

AMOUNT OF ANNUAL PENSION PAYABLE FOR THE DEPOSIT OF $100 WITH THE NATIONAL OLD-AGE RETIREMENT FUND, BY AGE OF DEPOSITOR AND PLAN OF INSURANCE

Age of Depositor	Amount of Annual Pension Payable for the Deposit of $100							
	Alienated-Capital Plan				Reserved-Capital Plan			
	Age at Which Pension Begins				Age at Which Pension Begins			
	50 Years	55 Years	60 Years	65 Years	50 Years	55 Years	60 Years	65 Years
4 years	$51.22	$74.66	$114.77	$190.32	$41.15	$59.98	$92.21	$152.91
5 years	47.15	68.73	105.66	175.22	37.72	54.99	84.53	140.17
10 years	38.95	56.77	87.27	144.72	30.25	44.09	67.79	112.41
15 years	32.15	46.86	72.05	119.47	24.07	35.08	53.93	89.43
20 years	26.18	38.16	58.66	97.27	18.99	27.68	42.56	70.58
25 years	21.16	30.84	47.41	78.62	14.88	21.69	33.35	55.30
30 years	17.15	24.99	38.42	63.71	11.55	16.84	25.89	42.93
35 years	13.89	20.24	31.12	51.61	8.86	12.91	19.85	32.91
40 years	11.22	16.35	25.13	41.67	6.68	9.73	14.96	24.80
45 years	9.00	13.11	20.16	33.42	4.92	7.17	11.02	18.28
50 years	7.13	10.40	15.98	26.50	3.52	5.12	7.88	13.06
55 years	.....	8.05	12.37	20.51	.....	3.52	5.41	8.97
60 years	.....	.....	9.31	15.43	.....	.....	3.53	5.85
65 years	.....	.....	.....	11.13	.....	.....	.....	3.53

ILLUSTRATIONS

The following illustrations show the practical operation of the old age pension fund:

A depositor, aged 35 years, contributing $100 as alienated capital, would receive at the age of 60 years an annual pension of $31.12. If at the age of 40 years he again contributes $100 his pension at the age of 60 years would be $25.13 for that contribution which, added to the other amount, would make a total annual pension on account of the two payments of $56.25.

If a depositor contributed at the age of 35 years $100 as reserved capital he would receive at the age of 60 years an annual pension of $19.85 and on his death his heirs would receive $100.

From 1851 to 1898 practically 60 per cent. of deposits were made by men and 40 per cent. by women. For the entire period of 1851 to 1911 there were practically 40,900,000 deposits made under the alienated capital plan and 35,300,000 under the reserve capital plan. The statistics of the fund further show that only about 3 per cent. of the entire funds deposited were made by individuals, 97 per cent. being made by the collective funds of mutual benefit associations and savings societies of all sorts—that is, the collective deposits. As is pointed out in the report of the Industrial Commission of Wisconsin, this National Old Age Retirement Fund of France offers insurance at less than cost, collects premiums in a manner and in amounts most convenient to wage workers, allows a wide range of choice as to policy and date of maturity and makes use of all existing agencies for collective or old age insurance. Nevertheless, from 1851 to 1883 only 640,000 persons opened accounts in the funds, an average of 19,000 a year out of a population of 35,000,000. Of these depositors only one half, that is, 52.6 per cent., were wage earners. Of these wage earners one half were railway employees, insured by the railway management without volition of their own. In thirty-three years barely 160,000 workmen were voluntarily insured. In 1911, after sixty years of operation, despite a government subsidy, only 3 per cent. of the wage earners of France had voluntarily availed themselves of the fund, and while the number of pensions in force from 1895 to 1911 gradually rose, the average amount of pensions fell from $34.48 in 1891 to $25.09 in 1911. It is still true that in spite of the government subsidies, one half the pensions are under $10 and nearly 87.4 per cent. are under $40 per year. Thus the voluntary old age insurance of France shows that voluntarily the workmen will not or cannot insure. Certain it is, they do not, and the vast majority of those that do insure are insured under other mutual aid societies as collective depositors, that is, practically under an involuntary compulsion. In Belgium, before the war, voluntary old age insurance succeeded about the same as in France. The general savings and retirement fund date practically from the same year—1851—and are based on the same general plan. After forty years' operation the total number of accounts in the fund was about 10,000. A liberal subsidy was offered in 1890 and the number of insured then rose in 1899 to 169,000. In 1900 the subsidy was increased to 60 per cent. of the deposit, made up to a total of $2.90 a year, which practically amounts to 40 cents on every dollar of premium, and under this stimulus about 1,500,000 were insured. The failure adequately to provide for old age in Belgium by any voluntary scheme even under heavy subsidies was so discouraging that just previous to the outbreak of the present war Belgium was about to inaugurate a system of compulsory insurance.

THE CANADIAN LAW

Another voluntary state insurance is that of Canada, passed in 1908.[8] This law provides that the minister of trade and commerce may make contracts with any person domiciled in Canada for the sale of the immediate or deferred annuity depending on a single life or partly depending on a single life and partly, for a term of years or dependent on the joint continuance of two lives. The minimum amount of annuity is $50 and the maximum $600. No annuity is to be paid prior to the age of 55 years. Various kinds of annuities are offered, mainly in two groups, the reserve capital and the alienated capital plans. In the reserve capital, in the event of the death of the purchaser before the first payment of the annuity falls due, the total amount which has been put in, with 3 per cent. compound interest, is refunded to the heirs. Under the alienated capital plan there is no return to the heirs in the event of death before annuity is due, and the payment is correspondingly much larger. In each group there are three forms of payment: the weekly payment, the yearly payment and the single payment. Premiums may be paid to the department direct or to the postmaster or any money order office, and the postmaster is allowed a commission of one third of 1 per cent. of all amounts paid in. An annuity may be purchased by or for any person between the ages of 5 and 85 years and no annuity may be paid before the annuitant reaches the age of 55. The rights of the annuitant are not saleable or transferable except to the extent that a purchaser may have a portion of his annuity, not exceeding one half, payable to his wife. Organizers and lecturers have been employed to advertise the scheme and to bring it to the general attention of the working people and their employers. It is said that so far it appears to have met with moderate success.

So far we have considered in old age relief those forms in which the workman helps in some manner toward the contribution either by contributing directly part of the funds under compulsion or voluntarily investing in investments which will surely bring him a pension in his old age, or voluntarily purchasing an annuity, as in Canada. In all these schemes, besides the voluntary contribution of the worker, the state has duly contributed its part, not with any idea of pauperization of the workman, not as a matter of poor fund relief to the pauper or of care to the indigent and crippled sick, as expenses of state and city hospitals may be considered, but as a willingness to give help to those who are willing to help themselves and as a reward for labor done. It has been considered justifiable subsidies of some form, either as direct sums, as in Germany or France, or as subsidies as in Belgium and some portions of the French law, or as a direct increased gift by paying for the administration of invalidity and old age schemes. Whether it was regarded as a reward or as an endeavor of the state to relieve itself of its responsibilities for the care of the indigent poor, it has been considered a justifiable expenditure of the state.

These schemes so far considered, moreover, also have some form of the insurance principle in them of paying small premiums over a long period which placed at compound interest produce, at a certain time, a much increased return, or that the small amounts paid in by many members of a large group may furnish at any time a relatively large amount which the needy person could not obtain by his own single efforts. In private life it has been universally considered as a just and fair reward for labor done that without any contribution on the part of the worker he should have, at the end of his years of work, a pension toward which he has not at all contributed. He has given faithful service and helped produce wealth by his work and can therefore accept the reward of a pension in his old age. Oddly enough, the same citizens in the country who willingly give this in private establishment funds, condemn the same plan when universally applied to the state and condemn the practice that a state should give to the citizens who, on reaching old age, are unable further to support themselves and who, through the years of their earning power, have been unable to store up from their daily needs any amount, however, small, to tide them over their years of unproductive, wornout old age. State pensions have been always looked on as too paternalistic and too socialistic to be advisable.

Of course we have seen even in those countries where insurance schemes have been put in operation the transition stage between the beginning of the operation of the law and the final fulfilment when all are equally working under the law and all the youths have grown up to pay the full number of their contributing years. There must be a transition period in which those already aged, when the law goes into effect, must practically receive some old age pension or some form of it when they reach their years of industrial uselessness. Therefore, the immediate problem of any insurance scheme

8. Massachusetts Commission on Old Age Pensions.

must be some form of old age pension. Many countries have frankly met the issue and deemed it wiser to recognize that a straight out and out old age pension ties up less funds, for the funds necessary are, each year, easily obtained by taxation and that really in the end it simplifies what is often a very complicated problem. There is no transitional stage between the passing and the fulfilment of an insurance law. Although it took fifty years or more for these ideas to be realized in Great Britain, even in that democratic state the old age pension law was passed in 1908. In 1891 Denmark also passed such a law and New Zealand in 1898. The Australian colonies of Victoria and New South Wales, and finally the combined Australian commonwealth, also accepted the ideas of old age pensions. These English colonies have accepted it even more generously than their mother country. New Zealand and New South Wales state that "Whereas, it is equitable that deserving persons who during the term of life have helped to bear the public burden of the commonwealth by the payment of taxes and by opening up its resources by their labor and skill, should receive from the colony pensions in their old age." Victoria, following New South Wales a year later, makes the declaration that "Whereas, it is the duty of the state to make provision for its aged and helpless poor," etc., and the commonwealth of Australia passed the act on the recommendation of the commission that the old age pensions should be granted as a right, not as a charity. Thus it has been starting from the time that the pensions were really considered as a relief of the poor they have finally come to be considered as a reward for labor done and that a man is entitled to support without being classed as a pauper, without losing his rights as a citizen, and without losing right of caste which poor relief carries with it. There is no question that this was the point of view taken in Denmark when that country passed its pension law for its old age relief, for the official title of the Danish law reads, "Law concerning old age support for the worthy poor aside from poor relief."

DENMARK

The old age pensions of Denmark are practically a scheme of outdoor relief for the deserving aged poor and the pensionable age is 60 years and persons over 60 years of age at the time the law went into effect were not disqualified on account of having previously received poor relief, provided that relief began after the sixtieth year. The amount of relief is not definitely fixed. The local authorities have the power to decide the nature and amount of the assistance to be given in each case, the law simply stating that the relief must be sufficient for the support of the person relieved and for his family, and for their treatment in case of sickness.

The relief may be given in money or in kind, that is, it may consist of a free admission into a suitable asylum or other establishment intended for that purpose, or, in the city of Copenhagen, it is generally given in the form of money. But in the country, where the recipients are more often known personally to the authorities, it is usually given in the form of fuel, food or rent. The amount given in cash usually amounts to a minimum of $12.50 and a maximum of $50 a year. The expenses are borne equally by the communes and the state, the state treasury reimbursing the communes one half of the total amount paid out by them at the end of each year. It was noticeable up to 1908 that the number of recipients of the old age relief had increased rapidly at the rate of 4 to 5 per cent. annually, while the population had only grown at the rate of 0.5 to 1 per cent. and the expenditure had risen in even greater proportion. When the old age relief system was established, it was expected the cost of poor relief would decrease if not proportionately to the advance of old age relief. These expectations were realized for a few years, but since 1896, that is, five years after the system was established, the amount for poor relief has steadily increased. Whether this is from increased numbers or increased care is not stated. This old age relief is not given indiscriminately, but there are numerous conditions of eligibility. An applicant must be of good character, not having done anything generally counted dishonorable; he must be unable to provide the necessities of life; his poverty must not be due to his own fault; he must have ten years' fixed residence; he must not have faced sentence for begging or vagrancy and must not have received poor relief.

GREAT BRITAIN

In Great Britain, after fifty years discussion, it was finally decided to grant payment of weekly pensions not exceeding $1.25 to persons over 70 years of age, except wastrels, lunatics, paupers and criminals, whose income from all sources does not exceed $157.50 a year. The rate of pension per week is as follows: Those whose incomes do not exceed $105 receive 5s; those exceeding $105 and not exceeding $115.12 received 4s; those who exceed $115.12 and do not exceed $131.25 receive 3s; those who do exceed $131.25 but do not exceed $143.37 receive 2s; those who do exceed $143.37 but do not exceed $157.50 receive 1s. Those who receive over $157.50, as stated above, receive no pension.

Besides being 70 years old and a British subject, there are other qualifications which are definitely stated in the law. One thing that is definitely stated is that a person of 60 years and upward who has been convicted under an inebriate act may not necessarily be disqualified. But the court may decree such a person disqualified for a period not exceeding ten years. It is a noticeable thing in England that the total number of pensioners under this act, in 1911, exceeded the calculations by about 270,000 and the expeditures were about $10,000,000 more than the original calculations. The great difficulty of accuracy of calculations seems to have been due to the inability to determine, according to law, the thrift and income and age tests. The following table gives the total number of pensioners in England and the value of the pension each year. A sudden increase in 1910 and 1911 is due to a

	Number	Value in Terms per Annum
1908–1909	647,494	$40,375,553
1909–1910	699,352	43,882,332
1910–1911	907,461	57,447,234
1911–1912	942,100	59,907,588
1912–1913	967,921	61,575,306

lapse on Dec. 31, 1910, of the principal poor law relief disqualification. In these numbers in 1913, 37.5 per cent. were men and 62.5 per cent. were women. This proportion is most marked in the urban areas. In Ireland the ratio is 42.3 per cent. men and 57.7 per cent. women, and in London the proportation was 30.7 and 69.3 per cent., respectively. Another disproportion is shown in England and Wales. Men form 48.3 per cent. of the total population and women 51.7 per cent. In the population over seventy men are 41.4 per cent. and women 58.6 per cent. The sex ratio among the pensioners over 70 is men 36.7 per cent. and women 63.3 per cent. Women seem to survive longer than men but many are widows and are left unprovided for. In the English colonies the New Zealand age limit is 65 years and the maximum pension is 10s, or $2.50, a week. There are certain definite restrictions and each pension is granted for twelve months and a new application must be made for renewal. The pensioner must apply at the local postoffice personally where the pension is payable monthly. The effect of the Pension Act on the poor relief has reduced somewhat the amount spent on outdoor relief, but the expediture on indoor relief has increased considerably, so that the sum total is an increase. In New South Wales they followed closely the New Zealand system. They granted $130.00 a year. The Australian system which superseded the separate system of New South Wales, Victoria, Queesland, etc., provides for the grant of pension not to exceed the sum of $130 at the age of 65 to persons whose incomes from all sources do not exceed $260 per annum. It is also provided that women may receive an old age pension, by proclamation of the governor-general, at the age of 60 years. Certain aliens and other disqualifications are mentioned. Pensions may be withdrawn at the discretion of the registrar from persons who misspend their income, or otherwise show themselves unfit for the further enjoyment

of a pension. In case a pensioner becomes an inmate of an insane asylum or a benevolent home, the pension is suspended during the time he remains in the institution. If a pensioner leaves Australia permanently, the pension is forfeited.

There is a special section of the Act making provision for invalidity pensions. This, however, does not become effective until so ordered by proclamation, and the disqualifications and requirements for the receipt of the invalidity pension are similar to those laid down for old age pension. To obtain such a pension, claim must be made to the registrar in the district. It is then referred to a magistrate who can recommend to accept or reject the claim, and after this the registrar refers it to the deputy commissioner of the district who may or may not grant the pension.

It is a noticeable feature that in all voluntary or compulsory insurance schemes for the care of old age and invalidity, mention has also been made of an endeavor to provide for the widow and orphans of the insured, if his death takes place earlier than is expected in the natural calculations of life. This insurance of widows and orphans runs very noticeably through the establishment funds and through the private schemes in this country. In the old age insurance, already described in France and Germany, the details providing for widows and orphans and the percentage of the pensions which they have received have been given in full for the sake of bringing out this feature. Rubinow draws attention to the fact that from the beginning consideration of the necessity of surviving dependents was shown in both France and Germany in the discussion of their old age protection. When the old age insurance bill in Germany, in 1887-1888, was under discussion, substantial provision for the widow and orphan did not seem feasible, but a provision was made which returned to the widow and orphans the contributions made by the workman if he died before receiving a pension. In France, during the twenty years before the old age law of 1910 was adopted, life insurance for those surviving was always seriously taken into consideration, in fact some schemes proposed making it a matter of choice whether old age pension or life insurance should be taken. This is further shown in the plan adopted in which there was finally put an option between alienated and reserve capital plans. That is, as has been already shown, while the alienated capital gave the bigger pension the reserve capital gave a measure of insurance to the surviving widow and orphans and the possibility that even in the deposit made under alienated plan, even when once this plan was chosen, all future deposits could be designed either as alienated or reserved. In the French old age insurance it is further permitted that death benefits shall be paid to the survivors, according to the size of the family. These are not large; they vary between $29 and $59 and are payable in monthly instalments of 50 francs, or $9.50, and the number of instalments vary from three to six. To Germany, however, belongs the credit of having, in 1911, brought out the only real national system of widows' and orphans' pensions. This, as all other insurance in Germany, is compulsory. This insurance was brought about by increasing the contribution of the employer and employees in the old age and invalidity insurance rates. That is, in the five classes, the lowest total increase was one-half cent and in the highest 2.8 cents, and as half of this contribution falls to the employer, the workman paid for obtaining the widow and orphan pension from one fourth of a cent to 1.5 cents more a week than he had already done. The increase amounts in the lowest class I to one-half cent; class II, 0.9 of a cent; class III, 1.9 cents; class IV, 2.5 cents, and class V, 2.8 cents. This did not seem to be too great a burden for the results obtained.

The amount of the widows' and orphans' pensions[9] depends on the amount of the invalidity pensions which the deceased was receiving or would have been receiving at the time. The widow receives 30 per cent. of that pension. Orphans' pensions are given to children under 15 only, and for the first surviving child 15 per cent. is given but only 2.5 per cent. to the other children. In addition, the widow is entitled to an annual subsidy of $12.50 from the state treasury and each child $6.25. While these pensions are not large, they compare favorably with the rate of the invalidity pensions, as the average invalidity pension amounts to about $40, the widow's pensions to about half this sum, and the family's pension to about as much as the whole pension, that is, with a normal family of three children. Of course, such small pensions as these do not solve the problem of the widows and orphans and, like most all of the amounts given above, they prevent starvation but are not enough to live on. We shall go into a fuller discussion of this in considering the relation of the social insurance laws to the reduction of poverty and the reduction of the poor funds—that is, in considering their social results and their relation to poverty.

9. Rubinow, I. M.: "Social Insurance."

UNITED STATES

In the United States there has grown up quite an extensive series of pensions to widows and orphans given under the name "Mothers' Pensions." Illinois, in 1911, was the first state to pass such an act. Missouri also followed that same year; California and Colorado in 1912, and in 1913, Idaho, Iowa, Massachusetts, Michigan, Minnesota, Nebraska, Nevada, New Hampshire, New Jersey, Ohio, Oklahoma, Oregon, Pennsylvania, South Dakota, Utah, Washington and Wisconsin followed suit. New York a year or two later also passed a mothers' pension act. Besides these states, two municipalities, those of Milwaukee and St. Louis, have established similar systems independently of state action. The two foreign countries which have passed these mothers' pensions are New Zealand and Denmark, in which the pensions are granted to widows only in each case on account of their children. In many of the American acts children are included whose fathers may be alive but disabled or whose fathers may have abandoned them, but the main mass of the pension in all the acts goes to the widow, as it should. These acts are an endeavor to keep the family together, with the mother herself at home with the children and not place them as wards on the state. Evidence, therefore, is required not only that the family is in need, but that it also is worthy of preservation. When these conditions are properly certified to proper officers, the allowances may be granted in some states by the courts, as in Illinois; by special committees in others, as in Pennsylvania. The amounts in most states are fairly liberal: $15 for one child, $7 for each additional child under 16 in Illinois; $12 for one child, $20 for two and $5 for each additional child in Pennsylvania. In Denmark the amounts paid to widows out of public funds, without drawing on the Poor Law, for the purpose of maintaining and educating their children, are about $27 for each child under 2 years, about $20 for each child from 2 to 12 years, and about $16.60 for each child from 13 to 14 years old. These mothers' pensions are still further removed from the insurance idea than the old age pensions, for the old age pension is given mechanically when the person arrives at a certain degree of invalidity due to old age or to a certain definite number of years of life, but in the case of mothers' pensions there is connected with it the necessity of investigation and certification of moral worth which brings it as a connecting link really between life insurance for the death of the worker on the one hand and public relief funds on the other.

No study of social insurance is complete without consideration of unemployment and the methods taken in Germany and other countries to diminish it, and the national attempt in England not only to diminish it, but also to provide against its result by an unemployment insurance. It is impossible to understand the effect of these various laws of social insurance unless we appreciate their relations to unemployment, and it is impossible to grasp the industrial situation without a realization of what unemployment is and what it means to the wage earner. To the majority of people unemployment among wage earners is looked on as the occurrence of a misfortune or a hard luck accident for which, in all probability, the wage earner is more or less responsible and to blame. While this may be true in certain instances, unemployment in the great mass of instances is a fault of industry, not of the individual. The responsibility is industrial, not personal. Unemployment is a normal recurrent condition of

a large percentage of wage earners. By unemployment is meant involuntary lack of work. Nearing defines it as involuntary idleness during ordinary work time.

In considering unemployment here we will rule out the consideration of that form of disability due to sickness, accidents or old age and consider simply the lack of work of the able-bodied when they are able and anxious to perform their daily task and earn their living thereby. Uncertainty of employment is a never ceasing dread which haunts all wage earners. Nearing, in his study of wages, claims that 20 per cent. must be deducted from the yearly total of wage earners for unemployment. Others claim that at least one fourth must be so deducted. It is only in the highest skilled trades with the strongest labor unions that wages have been raised sufficiently to tide over these periods of lack of work. In[10] the United States about 10 per cent. belong to the unions; in Great Britain about 17 per cent., and in Germany about 18 per cent. Not a large percentage of the wage earners are protected by a sufficiently high wage to enable them to stand without suffering, without the danger of changing poverty into absolute destitution, even the average amount of unemployment in the ordinary busy year of good times. When hard times come and the percentage of unemployment is high and the period of unemployment is long drawn out, destitution overtakes many hard working, honest wage earners eager for the opportunity to earn their living. Of course, insurance against unemployment will not cure, nor does it pretend to cure, the causes which bring unemployment. It can, however, as all insurance does, protect in a certain measure the individual against the calamity when it occurs, for by our definition of insurance previously given in these reports, insurance is a scheme by which a large group of men by giving a relatively small contribution protect themselves against a given calamity by receiving, when that calamity comes, sufficient to tide them over its effects, all of the group realizing that the calamity must come to some and no one knows to whom it will come in any given year.

At the hearings before the Committee on Labor of the House of Representatives, Sixty-Fourth Congress, 1916, Miss Poyntz showed that unemployment is a problem of greater proportions in America than in other countries, and yet this country is the last one to study it or to take measures to control it. When the need is great and the demand for something to be done to relieve the effect of unemployment, large charitable endeavors are instituted and some form of public works considered by which the stress may be relieved. As soon, however, as industrial conditions improve, everything is dropped and nothing further is done until either the next season brings with it its regular quota of unemployment or some cyclic occurrence of hard times again occurs forcing a repetition of the same charitable endeavors to solve a problem which the community should have been prepared to deal with for many years back. It is said that the time is past when the problem of unemployment could be disposed of either by ignoring it, as was the practice until recent years in America, or by attributing it to mere laziness and inefficiency. The causes of unemployment are social and inherent in the present method of industrial organization. The problem is one due to industrial phenomena and is not a personal problem and any remedies to be of value must be industrial and not personal. The unemployed are not the unemployable paupers. The unemployed are the whole working classes, the whole industrial army. The essential characteristic of the modern workingman's life is insecurity. Modern factory production is subject to constant fluctuations, often incalculable, often severe, always productive of unemployment for the workers. The workingman is the victim of the situation. When the factory shuts down, the manufacturer takes care of the machinery, shelters it, oils it and protects it, but nothing is systematically done to protect the living machinery by which the products of the factory are produced. This portion is turned out of doors to fare as best it may. If there be an industrial crisis, there are no openings in other factories or in other industries and no work to be had. Unemployment is due to the incapacity of industry to absorb the whole supply of labor at any given time; there is always some unemployment in prosperous years. Under tremendous stress of good times, such as during the past year, the amount of unemployment is reduced to a very unusual minimum, but during the bad years of depression it rises to appalling proportions. The permanent excess of supply over demand in the labor market is caused largely by the constant fluctuation of industry making it necessary to have reserves on which to call. Hundreds of thousands more of workers are needed in good years than in bad years to operate our industries and many more are needed in the busy season than in the slack season. Besides, in almost every business, there will be special calls for workers to be taken on for a few weeks and large reserves are needed for these casual demands. To the reserves required for these three types of fluctuations in industry—periodic or irregular, seasonal and casual—must be added the surplus produced because of, first the inefficient handling of these reserves and the lack of means of transferring workers smoothly and rapidly from job to job; second, the temporary displacement of workers by new machinery; third, the lack of adaptability due to old age or mental or physical weakness; fourth, the lack of industrial training either in youth or in adult life; fifth, the overspecialization which confines the chances of employment to small subdivisions of industry and particular operations. There is thus, at all times and all seasons, a fringe of workers in reserve standing around each industry and often each separate business in wait for the chance of a demand for their particular kind of labor.

NUMBERS EMPLOYED IN ALL INDUSTRIES
(Average number employed, 575,103—100%)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
1908	83.6	82.7	81.9	80.5	80.0	80.5	80.0	81.3	85.4	88.1	88.4	87.9	83.5
1909	98.4	99.5	103.3	100.0	100.0	100.0	99.5	101.0	103.2	104.6	105.0	106.3	101.4
1910	101.5	102.6	102.6	101.8	100.9	98.6	96.6	97.8	98.5	100.0	101.4	101.6	100.2
1911	101.4	104 0	102.9	102.0	100.2	98.8	98.0	99.3	101.3	103.0	104.0	104.1	101.3
1912	103.0	102.6	104 7	104.1	104.9	105.2	103.9	104.1	106.5	108.3	109.8	110.0	105.6
1913	109.1	109.5	109.7	108.0	106.0	105.0	102.8	104.6	106.5	107.5	108.1	108.0	107.1
Aver.	99.5	99.6	100.8	99.4	98.6	97.9	96.9	98.0	100.3	102.0	102.8	103.0	100.0

In every industry there is a seasonal fluctuation. Every factory has a period of depression and a period of excessive output during the year. There is constantly extensive seasonal unemployment and this is responsible for a great deal of the general lowering of the standard of living and for the uncertainty of the tenure in the workingman's job. This seasonal rhythm between rush and idleness lies deep in the organization of industry in this country due to social habits, individual tastes and often directly due to the seasons of the year and the variation of the weather itself. The weather really is more fundamentally a factor than is generally realized, for it interacts with the economic and social environment to such an extent that in many industries the causes of irregularity seem purely economic and social. In others, the weather plays the predominant rôle and affects production directly, especially in the open air industries, such as building, ship building, agriculture, brick making, quarrying, and outdoor unskilled work of all kinds. In other industries, weather affects the consumption of the product rather than the production, and the demand becomes purely seasonal. For instance, the muddy weather of winter and early spring causes an enormous consumption of rubber shoes and the variation of a few inches of rainfall in a season will affect sales very materially. It is said that an unusually cool summer recently spoiled the market for low shoes and brought about enormous sales at ruinous prices. Heavy weight and light weight clothing, the difference between the felt and the straw hat industries, are good examples of those affected by purely seasonal conditions. The social season is no less important than the weather in its influence on industry. Christmas, Easter and the summer vacation are as conspicuous mile stones in industrial as in social life. They affect profoundly the buying habits of the consumer which, in turn,

10. Hearings before Committee on Labor, 64th Congress, 1916, p. 157.

determine the current of industry and employment. The Christmas season calls out the consuming energy of the public—the general curve of employment stands highest at this point. Business and social habits, purely customary in nature, are often responsible for seasonal irregularities. This is particularly well seen among the publishing houses of school books and in the habit of laying in stock at certain times of the year. Publishers estimate that the average bookseller does 70 per cent. of his business in the last two months of the year.

Besides the seasonal variation, there come great cyclic depressions in trade and industry which are often world wide in their extent. These come in periods of seven or eight or twelve years apart and the reasons for these are much in dispute. Pigou,[11] in discussing it, lays stress on the cyclic influence from the variability of the harvests. Good harvests bring confidence and continue a sense of prosperity and poor harvests the reverse. In good times, when industry is active, the manufacturers are making good profits and reinvesting these by enlarging their industries, and bankers are willing to lend money and companies are formed with expansion of bonds and stocks. As long as the confidence lasts, all will be well, and abundant harvests keep up this confidence, production flourishes, consumption is generally increased through good times the world over, and unemployment is at a minimum. But whether it be due to a poor harvest or whether it be due to some other cause that begins to produce lack of confidence, credit is immediately contracted, a period of retrenchment begins. Hard times cause a diminished production and consumption and there is produced a large mass of unemployment. The situation is thus produced that during this period of depression factories are standing idle and people who want to work cannot and other people need things which are not being manufactured, and we are faced with the absurdity that factories must suspend work when there are on the one hand people who want to work to produce articles of commerce and, on the other hand, people who need these articles; but the former cannot work and the latter cannot buy. The people need more clothes and the garment makers want to make them; farmers want to sell their produce and yet people in the larger cities are starving for want of food; shoe factories are standing idle when workmen are unemployed and children are going barefoot. When capital loses its timidity and confidence in credit is restored, times improve, and again the cycle goes on from good to bad. The preceding table and curve of numbers employed in the principal industries in Massachusetts show both the seasonal variation and the variation from bad times to good.

The table of New York reports on employment in selected trade unions shows both seasonal and cyclic variations even better and shows, also, the high percentage in hard times, such as in 1908:[12]

Years	Month	Number of Unions Reporting	Aggregate Membership Reporting	Idle at End of Month	
				Aggregate Number	Per Cent.
1901	December	188	97,270	18,593	19.1
1902	January	187	96,173	20,115	20.9
	February	187	97,126	18,148	18.7
	March	187	96,888	16,738	17.3
	April	187	98,740	15,099	15.3
	May	187	97,148	13,591	14.0
	June	187	98,020	14,247	14.5
	July	187	101,223	15,836	15.6
	August	185	101,281	7,148	7.1
	September	185	98,349	6,166	6.3
	October	185	97,951	10,966	11.2
	November	185	98,063	13,985	14.3
	December	185	99,063	22,036	22.2
1903	January	185	102,414	20,955	20.5
	February	184	101,226	18,066	17.8
	March	184	100,540	17,699	17.6
	April	184	98,574	17,071	17.3
	May	184	100,134	20,210	20.2
	June	184	100,484	23,215	23.1
	July	184	105,202	18,759	17.8
	August	184	104,445	16,101	15.4
	September	184	105,952	9,956	9.4
	October	184	101,159	11,802	11.7
	November	184	100,200	16,395	16.4
	December	184	100,879	23,301	23.1
1904	January	184	100,602	26,004	25.8
	February	182	104,074	22,460	21.6
	March	181	103,681	28,124	27.1
	April	182	95,501	16,198	17.0
	May	182	96,187	15,262	15.9
	June	180	96,476	13,263	13.7
	July	176	96,824	14,317	14.8
	August	189	96,772	13,231	13.7
	September	188	99,652	12,001	12.0
	October	199	98,167	10,620	10.8
	November	199	95,538	10,644	11.1
	December	199	96,075	18,847	19.6
1905	January	199	97,345	21,886	22.5
	February	198	96,641	18,748	19.4
	March	196	97,151	18,618	19.2
	April	193	91,913	10,825	11.8
	May	193	92,649	7,687	8.3
	June	191	93,729	8,557	9.1
	July	192	92,916	7,417	8.0
	August	192	93,800	6,789	7.2
	September	192	94,836	5,636	5.9
	October	192	91,088	5,079	5.6
	November	192	91,521	5,576	6.1
	December	192	91,767	10,223	11.1
1906	January	191	84,539	12,682	15.0
	February	190	85,155	13,031	15.3
	March	192	85,956	9,952	11.6
	April	192	90,352	6,583	7.3
	May	192	91,163	6,264	7.0
	June	192	92,100	5,801	6.3
	July	195	94,571	7,229	7.6
	August	195	94,220	5,462	5.8
	September	195	94,280	5,959	6.3
	October	195	92,662	6,383	6.9
	November	195	93,049	7,052	7.6
	December	195	93,318	14,352	15.4
1907	January	191	92,871	20,007	21.5
	February	191	92,797	18,653	20.1
	March	191	93,242	17,018	18.3
	April	191	94,402	9,563	10.1
	May	191	94,755	9,955	10.5
	June	191	93,840	7,809	8.1
	July	194	100,965	8,585	8.5
	August	193	100,025	12,135	12.1
	September	193	98,224	12,089	12.3
	October	194	99,121	18,296	18.5
	November	194	98,098	21,596	22.0
	December	194	97,732	31,917	32.7
1908	January	192	96,727	35,684	36.9
	February	192	95,696	35,924	37.5
	March	192	94,542	35,436	37.5
	April	192	94,148	31,956	33.9
	May	192	93,532	30,152	32.2
	June	192	92,814	28,013	30.2
	July	193	92,112	24,698	26.8
	August	193	90,872	22,389	24.6
	September	193	90,708	22,315	24.6
	October	193	89,275	20,631	23.1
	November	193	89,426	19,232	21.5
	December	193	88,746	24,879	28.0
1909	January	192	88,604	25,964	29.3
	February	192	89,396	23,727	26.5
	March	192	90,619	20,836	23.0
	April	192	89,039	18,042	20.3
	May	192	89,241	15,228	17.1
	June	192	89,227	15,503	17.4
	July	190	89,551	12,459	13.9
	August	190	90,429	10,790	11.9
	September	190	90,783	13,171	14.5
	October	190	91,247	12,468	13.7
	November	190	91,977	12,206	13.3
	December	190	91,102	18,791	20.6
1910	January	193	90,998	22,253	24.5
	February	193	91,944	20,610	22.4
	March	193	95,388	21,524	22.6
	April	193	96,074	15,413	16.0
	May	193	97,358	14,121	14.5
	June	193	100,418	15,497	15.4
	July	192	103,875	20,172	19.4
	August	192	111,730	24,967	22.3
	September	192	114,395	14,262	12.5
	October	192	114,147	17,122	15.0
	November	192	116,581	20,378	17.5
	December	192	118,317	32,304	27.3
1911	January	190	120,859	32,312	26.7
	February	190	120,235	29,804	24.8
	March	190	121,828	31,187	25.6
	April	190	120,877	25,798	21.3
	May	190	121,132	32,996	27.2
	June	189	121,237	27,793	22.9
	July	188	116,801	18,128	15.5
	August	188	118,445	13,879	11.7
	September	188	119,724	13,350	11.2
	October	188	118,007	13,657	11.6
	November	188	117,826	23,620	20.0
	December	188	115,430	36,590	32.2

The New York trade unions show with great intensity the seasonal fluctuations among some trades in which these influences greatly predominate. They show, also, however, very strongly the cyclic fluctuation. The preceding table from the *American Federationist*, the official organ of the American

11. Pigou, A. C.: "Unemployment."
12. "Statistics of Unemployment and the Work of Employment Offices," Bulletin of the U. S. Bureau of Labor, Whole Number 109.

Federation of Labor, from data received from all parts of the United States, shows the seasonal and cyclic fluctuation but in a much smaller degree than the New York statistics.

PERCENTAGE OF EMPLOYMENT AMONG ORGANIZED WORKERS REPORTING TO THE AMERICAN FEDERATIONIST, BY MONTHS, 1902-1909

Months	1902	1903	1904	1905	1906	1907	1908	1909
January	...	6.1	6.4	6.3	7.8	2.3	8.8	9.8
February	...	3.7	7.3	6.1	4.6	3.2	8.2	7.4
March	...	2.1	1.4	3.8	1.9	1.3	8.6	8.6
April	...	1.8	4.2	1.3	2.3	0.5	6.6	5.6
May	...	5.3	1.3	...	0.9	1.7	7.1	6.7
June	...	2.5	5.1	2.2	1.5	0.2	4.1	5.3
July	...	3.3	1.6	2.0	1.4	1.7	6.4	5.7
August	...	2.1	3.2	5.8	1.8	5.8	9.6	5.6
September	...	2.1	1.5	3.7	3.2	2.2	8.4	4.8
October	6.9	1.2	1.2	0.9	0.8	1.4	6.9	1.2
November	1.8	4.2	3.9	1.2	1.8	2.3	6.8	...
December	1.3	1.1	2.1	1.3	4.1	1.2	6.2	...
Smallest number reporting	83,277	36,293	44,870	41,148	28,300	26,680	42,700	56,418
Largest number reporting	133,354	165,626	115,406	154,118	165,671	131,050	134,720	139,836

The following tables of German statistics of unemployment in the year 1895 show, however, one point very emphatically.

NUMBER AND PER CENT. OF PERSONS OF THE EMPLOYEE CLASS OUT OF EMPLOYMENT JUNE 14 AND DECEMBER 2, 1895, BY INDUSTRIES

Industries	Persons in the Employee Class, June 14, 1895	Persons Out of Employment			
		June 14, 1895		Dec. 2, 1895	
		Number	Per Cent. of Total Employees	Number	Per Cent. of Total Employees
Agriculture, gardening and live stock	5,607,313	37,144	0.66	203,246	3.62
Forestry and fisheries	116,713	1,394	1.19	5,551	4.76
Mining, smelting and salt and peat extraction	564,922	8,312	1.47	11,487	2.03
Stonework and earthenware	468,489	6,872	1.47	26,964	5.76
Metal work	719,775	20,834	2.89	27,015	3.75
Machinery, tools, instruments, etc.	304,463	7,828	2.57	10,485	3.44
Chemicals	92,582	1,797	1.94	2,118	2.29
Forestry products, lighting materials, grease, oils and varnishes	38,116	796	2.09	1,045	2.74
Textiles	878,494	14,424	1.64	16,833	1.92
Paper	121,526	3,158	2.60	3,475	2.86
Leather	125,514	4,292	3.46	7,486	6.04
Woodenware and carved goods	456,229	13,363	2.93	18,257	4.00
Food products	656,970	21,465	3.27	28,553	4.35
Clothing	775,671	24,317	3.13	42,078	5.42
Building trades	1,151,851	33,008	2.87	179,797	15.61
Printing and publishing	106,526	4,454	4.18	4,667	4.38
Painting, sculpture, decoration and artistic work of all kinds	18,765	674	3.59	1,034	5.51
Factory hands, artisans, etc., of whom the industry cannot be classified	28,542	1,415	4.96	10,177	35.66
Commercial pursuits	626,637	22,048	3.52	26,334	4.20
Insurance	18,216	274	1.50	315	1.73
Transportation	533,150	6,927	1.30	16,230	3.04
Hotels, restaurants, etc.	316,951	8,061	2.54	15,603	4.92
Total	13,725,825	242,857	1.77	658,750	4.80

Giving the statistics of unemployment in the industries, it is noticeable that at the end of June in the 13,000,000 persons in the employed class but 1.77 per cent. was the average of the unemployment of these trades. The highest percentage occurred under "factory hands, artisans, etc., of whom the industry cannot be classified"—that is, evidently, the unskilled labor. The percentage in this class was 4.96. It is noticeable that on Dec. 2, 1895, when the total average of idleness for all these trades was 4.8 per cent., the same class of unskilled labor had risen from 4.96 per cent. to 35.66 per cent. It is a striking example that the unskilled labor is the first to be discharged and suffers most from any cause of unemployment. On the same date, when 35 per cent. of the unskilled were unemployed, the total average for the 13,000,000 workingmen was only 4.8 per cent.

Unemployment is a greater problem in this country than it is abroad. Even trade union unemployment rises higher in the statistics of New York and Massachusetts than it does in Europe. Miss Poyntz[13] states that during the great crises which have swept over the countries of Europe within the last two decades, the trade union unemployment statistics have rarely risen above 10 per cent., whereas in the United States the general statistics of unemployment have risen above 20 per cent. and even 30 per cent. The 1900 United States census only classified the unemployed according to the length of time they were idle. It does not give the average duration of unemployment for the different trades, but of the 5,227,472 males unemployed in all occupations in 1900, 49.6 per cent. were unemployed from one to three months, 39.6 per cent. were unemployed from four to six months, 10.8 per cent. were unemployed from seven to twelve months. That is, half of the employment is for less than 25 per cent. of the working time and half for more than 25 per cent. of the working time, so that in 1900 nearly 3,000,000 working males were unemployed for more than one fourth of the full working time. In the twenty-fourth annual report of the Commissioner of Labor, there is an analysis of 25,440 families. The total unemployment was 49.81 per cent. with an average number of days of 52½. All statistics as to the amount of unemployment in the United States do not enable one to answer the question or to form any possible estimate of the number of unemployed persons in the Uited States. The statistics in both Pigou and Beveridge show that in England, from 1860 to 1912, the highest percentage of trade union unemployment in the United Kingdom has risen but twice just above 10 per cent. in the years 1879 and 1886.

Besides the problem of skilled and unskilled labor of the ordinary industries, there is the more serious problem of casual labor. There are the great armies of casual workers that travel from one part of the country to the other, without homes and without family ties. They work in lumber camps, in the fields, and travel about picking up a job here and there and drifting back to the cities in the winter unemployed. Casual labor of men with its accompanying phenomena of underpayment, pauperism—for the paupers and vagrants will not work and are often the product of the condition of being unable to find work in the first place—woman labor, child labor, are all the results of a completely disorganized and medieval system of marketing labor. While labor is peddled about in a haphazard way, without systematic information as to the demand or supply of labor, without any centralized organization for bringing these two factors into contact, the elimination of casual labor and the economic distribution of labor will be impossible. The public organization of the labor market, through a clearing house of labor and a system of labor exchanges, and information on the labor market covering the whole field of industry, is a necessary preliminary to any other attempts to attack the problem of unemployment.

The development of unemployment insurance has taken the same course as the other forms of insurance. That is, it has passed through the period of voluntary mutual insurance, caring for a few inadequately, greatly improved under voluntary state subsidized insurance, and thence finally to the English compulsory subsidized state insurance. It is the same development that we have seen in other forms of social insurance. The only successful method by which unemployment insurance has been begun and voluntarily carried out has been through the out-of-work benefits of the various trade unions. Not all the unions could afford to give it; not all the unions that did give it could afford to give adequate amounts to their members when out of work. Among those that did there was no question that they were the best administered forms of relief. Each union knew best the state of its own labor market; they knew best when a member was really out of work and whether or not he could obtain work. They mutually controlled the administration of the fund and its practical application. Not enough of the labor unions could give sufficient labor to make any wide

13. Hearings before Committee on Labor, House of Representatives, 64th Congress.

impression on the situation. Various charitable schemes of relief at the time of great stress were tried, the giving of public works, the giving of employment with a deterrent element in it, such as giving board and lodging for stone yard and wood yard work, etc., were all tried without adequate success. They were used only when the great stress of the situation drew in both public and private help and it was found that the work with a deterrent element in it was by no means a solution. The more the problem was studied it was readily seen that the problem was one of industry and not of character, and the deterrent or punishing element in it was an unjustifiable element added to the already overburden of the workman.

The earliest attempt at a solution of the question was in the city of Berne, Switzerland, in 1893, which endeavored to give to individual workmen financial subsidy during the winter months. By a certain contribution paid during eight months in the year the unemployed workmen were able to draw a certain stipend from the municipality for the time in the winter when they were unemployed and could not obtain work. This form of insurance has been taken up in Cologne, Germany, and other funds have been undertaken on the same principle in other cities in Europe, such as Leipsic, Venice, Basel and Geneva. These funds do not work well and successfully. They are overwhelmed with 80 or 90 per cent. of the building trades which are the most seasonal unemployed of the workers. These funds are not run through the control of the trade unions and have not expanded to any large extent nor been very successful. Finally, in 1892, in the city of Ghent, a town of some 200,000 inhabitants before the war, the municipal council decided seriously to study the situation and to see if by some form of subsidized benefit the situation might be improved. In 1900[14] the municipal Council of Ghent decided to give as a subsidy to every member of a trade union 60 per cent. of his out-of-work benefit when he was employed. This subsidy was given under certain rules to a committee appointed by the municipality. This committee pays the subsidy to the trade union, the trade union having advanced the amount to an individual out of work. This subsidy is paid only in respect of involuntary unemployment, including unemployment due to a breakdown of machinery or to fire in the factory. It is not granted when the unemployment is due to a strike or a lockout or to sickness or other incapacity. It is paid to persons residing in the commune participating in the scheme. The committee pays the subsidy to any organization which provides insurance against unemployment, but in practice all such organizations are trade unions. The fullest freedom is left to the associations in determining the conditions on which they will provide insurance on their own funds. They also pay to those who were forced, through unemployment, to draw on their savings—that is, they were willing to subsidize an individual and pay 60 per cent. of the amount necessary for him to draw from his savings bank because he was unemployed. The same person could not receive a subsidy on both insurance and savings. Since 1904 subsidy has also been paid on individual savings made in provident societies. The mode of operation of the fund is simple. If the individual is entitled to receive 18 cents a day from his trade union as unemployment benefit, he receives 11 cents as a 60 per cent. subsidy for every 18 cents given. The union pays, therefore, 29 cents a day to its unemployed members, and in course of time the union submits its accounts to the committee and is paid 11 cents a day for every individual for moneys advanced, and the accounts are paid monthly. It is stated that besides benefits received from the unemployment, it has improved enormously the feeling of responsibility of the trade unions to the community and the participation on the committees has been of great mutual benefit. This is practically called the Ghent method.

In 1908 there was a serious industrial depression in this city and the amount of unemployment was extraordinary, but the system stood the strain. The unemployed benefits paid during that year totaled nearly $20,000 and the supplementary grant from the municipality was a little over $9,000. The average rate of benefit per member aided has risen from $165 in 1901 to $274 in 1906 and $355 in 1912.

The effect of removing the competition of unemployed men has been to advance wages. The proportion of unemployed to total trade union members has satisfactorily declined. In 1896 and 1899, before insurance was admitted, the ratio was thirty-one per thousand; in 1913, the number of unemployed in the trade unions had fallen to sixteen and twelve per thousand.[15] The number of poor in receipt of public aid has fallen from 1,635 in 1903 to 1,358 in 1912, a reduction which, taking into account the law, amounted to a decline of 50 per cent. The number of tramps housed by the city has fallen in the same interval 24 per cent., while the number of workmen insured against unemployment has risen 100 per cent. In 1913, just before the war, there were two distinct classes of wage earners in Ghent; those who are affiliated with the various forms of insurance against unemployment, sickness, old age and accident, and those who were guaranteed against pauperism, and an inferior class who were forced to appeal to public charity in case of these disasters. The first group were steadily increasing in number and were really more numerous than the second group, although the improvident group of Ghent cost the public treasury twenty to thirty times more than the insured.

For any successful unemployment insurance it is absolutely necessary that there must be some satisfactory method devised of helping the workless man find work. In Ghent a labor exchange had been established by the Council in 1891, but it proved itself so inadequate that in 1904 it was reorganized and the employers' association and trade unions were equally represented on the governing board. Thus loyal cooperation of both parties to the labor contract was enlisted. In the first four years after its reorganization the number of positions filled at the municipal labor exchange was quadrupled. Every insured man was forced to report his unemployment at the labor exchange and naturally on failing to find work, he procured the 60 per cent. offered by the unemployment fund. The Council of Ghent was further contemplating another precaution against unemployment—that is, the foundation of the Crisis Fund. The employers were invited to subscribe a fixed annual fund on the understanding that a municipal subsidy would also be accorded. This money was to be used in helping such of their employees as might be discharged or placed on short time in a period of business depression.

Thirty towns in Belgium have followed the example of the city of Ghent, twenty in Holland, ten in France, three in Italy, and two in Switzerland, and the Ghent idea of help for self-help lies at the basis of the national scheme for insurance against unemployment recently adopted in Denmark, Norway and Great Britain. One town in Belgium, Liege, has modified slightly the Ghent idea. Liege pays its subsidy direct to a labor union, not through a committee. Moreover, it pays for unemployment due to lockout but not due to strikes. In some places the Liege idea prevails and in others the Ghent idea. The result, however, is the same.

The first application on a national scale of the Ghent idea was undertaken by the new kingdom of Norway. In 1906 a law was passed to encourage and develop the efforts toward self-insurance already in operation among the principal trade unions. Since these unions are state-wide federations, the cooperation of all the towns and communes in Norway was necessary. The statute provided that the states and the communes concerned should reimburse one fourth of all benefits paid from unemployment funds organized in accordance with certain prescriptions. Only such employment funds were to be recognized as derived at least half their resources from members' dues, and the fund must be independent of the trade union treasury and devoted exclusively to the care of unemployed members. At first there was a bitter opposition from the labor unions to having any nonunion men participate. Finally, it was agreed that the nonunion member must pay an addition of from 10 to 25 per cent. of the dues required from union members, and the original subvention of one fourth was raised to one third and nineteen of the labor

14. Gibbon, I. G.: Unemployment Insurance.

15. Coman, Katherine: Unemployment Insurance.

unions agreed to participate. Up to 1914 it was said that one nonunion man had applied for membership in an unemployment fund. As there are 75,000 unorganized laborers in Norway, the problem of the unskilled laborer still remains unsolved. The terms on which benefits may be paid are that the unemployment must be involuntary, it must not have been caused by strike or lockout or by drunkenness or bad temper. The applicant must have reported to the nearest employment agency without, however, being able to find suitable work, and he may not receive double benefits—that is, he cannot be in receipt of aid from another fund. The member must have paid dues for twenty-six weeks and his benefits are not paid him for the first three days after he has announced himself out of work, nor can he receive these benefits for more than ninety days in any one year. An average membership due of $1.90 a year covers the normal amount of unemployment with an allowance of half the daily wage. All benefits are paid in the first instance from the unemployment funds maintained by the trade unions. Four times a year the state repays to the unemployment fund one third of the money legitimately expended by them; two thirds of the money furnished by the state is later returned from the communes, each paying in proportion to the number of beneficiaries resident therein. About 20,000 men are covered by this insurance, which is about 50 per cent. of the organized labor of Norway. As unskilled labor is practically uncovered and only about one half of organized labor, this scheme has not yet reached those who need it the most. It is said that a project for revision is being discussed which may render insurance for unemployment obligatory for seasonal trades.

In Denmark, in 1907, a law was passed which offered a subsidy to recognized unemployment funds amounting to one half the premium paid the members. Communes to pay an addition of from one third to one sixth of the sums contributed by persons residing within their limits on the understanding that the state will subscribe an equivalent sum. Thus the total public subsidy might amount to two thirds or even five sixths the membership dues and surpass in generosity the Belgium municipal grants of from 50 to 60 per cent. of the benefits paid.

The advantage in Denmark of estimating the government contribution according to premiums paid in rather than benefits paid out lies in the possibility of accumulating a reserve fund in good times against the years of depression. The unemployment fund must have a distinct legal entity, and its treasury must be entirely independent of the treasury of the trade union with which it is affiliated. Six representatives of the unemployment funds, together with an inspector general, make up the Council of Unemployment, and this body settles all questions of policy. For example, it was determined that a man would not be considered entitled to unemployment benefit until he had sought and failed to obtain work outside his own trade. A member must be ready to accept any work for which he is competent and only when no suitable work is found has he a claim on the unemployment fund. There has been also established by the Labor Exchanges Act an employment bureau in every town and commune to act in cooperation with trade union agencies. Fully 60 per cent. of the industrial wage earners of Denmark are now insured—73 per cent. of the insurable women and 28 per cent. of the insurable men. The unskilled workmen and casual laborers untouched by the Norway unemployment system have been brought within the scope of the state aid in Denmark by a very effective labor organization. This was through the personality of an unskilled laborer. The membership of this unskilled laborers' union is now 39,000. The hope of adequate insurance against unemployment was the primary inducement, but the organization has also been instrumental in forcing the general advance of wages, in reducing the amount of night work and Sunday labor and securing extra pay for overtime. Each member contributes $2.75 per year to the unemployment fund connected with this union, and is entitled to a benefit of from 27 to 40 cents a day for seventy days a year for legitimate unemployment.

Within the limits prescribed by law the conditions of unemployment insurance vary with each fund, the rate of wages and trade represented, the amount of unemployment and the chances of finding work are the factors that determine the amount of dues, rate of benefit, as well as period of support. The dues vary from a minimum of $1.40 paid by the unskilled workwomen to a maximum of $7 per year paid by the workers in stucco. The daily stipend is 27 cents, 40 cents and 54 cents, according to the financial status of the fund. The period of payment runs from fifty days in the year, allowed to unskilled laborers, to 160 days allowed to printers. The total amount of benefits paid in 1912 was $454,810, of which 53.8 per cent. was contributed by the members, 31.9 per cent. by the state and 14.3 per cent. by the communes. The total aid of unemployment from all sources for a period of five years during which the act has been in operation amounted to $1,755,000.

The labor problem in France differs from that in England and America, in that France is still the land of small industries, and the problems of commercial crises do not have such an intense influence as in England and America. The problems of casual labor are not so acute. According to the last three censuses, the proportion of wage earners involuntarily out of work to total wage earners has been steadily decreasing. It was 3.1 in 1896, 2.97 in 1901 and 2.33 in 1906, and the general average for the whole country just before the war was 300,000, a figure which could be easily duplicated in New York City in 1913-1914.

Insurance against unemployment through the agency or trade unions, aided by municipal subvention, has been in use in some thirty French towns for more than a decade. The system followed is usually that described for Ghent. In 1905 the appropriation of some $22,000 was voted by parliament as against unemployment. This state grant is paid every six months into the unemployment fund maintained by the unions and reckoned according to benefits, and is not paid to the members direct. The rate of allowance varies between 20 per cent. for local organizations and 30 per cent. for varied trades, which last are organizations with a membership of at least 20,000, representing not less than three governmental departments. This preference of 10 per cent. is given because it is believed the federated trade union is better able to control its members and provide for more opportunities to work and is of more enduring nature. This state insurance has not advanced very far, and the usual private employment agencies have an exceedingly bad reputation for their honesty. It is said, however, that in the northern part of France, just previous to the war, the unemployment insurance had taken on a sudden increase in activity and that at the proceedings of the unemployment conference held in Paris, in 1910, it was evident that a great interest in this subject was aroused in France.

Germany has not as yet any direct insurance against unemployment. It has, however, a thoroughly well-organized series of labor exchanges, the object being to put the employers seeking help and the employees seeking employment into immediate communication. In 1908, it is said by Beveridge,[16] the Imperial Statistical Office in Germany received regular returns from over 600 registries and exchanges filling from 150,000 to 180,000 situations in a month. The labor office in Munich is typical, and its stated objects are to put employers and employees into communication with a view to employment and to supply as far as possible information on all questions concerning workmen and committees of employment. It has also the duty of supplying the municipal statistical office with material for statistics as to employment and the supply and demand for labor in each occupation and at various seasons. It is managed by a committee consisting of three employees elected by the employee assessors of the industrial court and three employers and the official chairman nominated by the municipality. No fees are charged either to employees or employers, the whole cost being borne by the city of Munich. The labor office is divided into three sections for the men, the unskilled, the skilled workers in iron and wood and all other skilled workers. Each group has its own waiting room. There is one room for apprentices and two for women, the industrial workers and the domestic servants. The applicants for employment go to the appropriate waiting room and fill

16. Beveridge: Unemployment, a Problem of Industry, p. 239.

out a short form of details, and the employer sends to the exchange either by telephone, by post or by his representative, or he can go himself. If a request is received by telephone, the exchange sends the workman to the employer with a card of identification which is mailed back. If an agent or the employer himself has called, this is not necessary. In the unskilled section men stay in the waiting room all day; in the skilled section there are fixed hours for each trade. The labor office appears to concern itself very little with inquiries as to the character of the applicants for employment. Efforts are, of course, made to send the sort of man asked for by the employer, but in the unskilled labor it is considered the employer's place to satisfy himself of the capacity of the man he engages. The direct utility of the labor office is to prevent economic waste by employers seeking for men and men for employers. Thousands of situations are filled outside of Munich, some outside of Bavaria and some even in foreign countries from this exchange.

The Berlin exchange is the largest in Germany, filling, in 1906, all but 100,000 situations. This is a voluntary, not a municipal institution. It charges a small fee of 5 cents, in return for which the applicants get a certificate admitting them to the waiting room of the exchange for three months or until they are placed in a situation. The exchange premises are divided into two distinct buildings—one almost entirely devoted to unskilled labor—and contains a waiting hall capable of seating 1,000 men. In the other building there are a number of separate sets of offices which are sectional exchanges for separate trades. Each trade has not only its own office, but its own staff, its own committee of management representing equally the employers' and the employees' associations concerned, and they hold a very strong position amounting almost to a monopoly in the field of furnishing situations in their trades.

The Strassburg labor office has a scheme in force of augmenting from a municipal fund benefits paid by trade unions to their members. One of the conditions for the receipt of this municipal subsidy is regular registration at the labor office. Able-bodied recipients of outdoor relief are required to register daily and must accept any offer of suitable work at the current rate of wages, on pain of losing their allowances. Another point to notice is that all contractors for city works are under stringent penalties bound to engage all their men through the labor office. These exchanges are also used as a means of preventing as well as relieving distress. At Freiburg, in 1906, 34.3 per cent. of men registered were still in employment at the time of their application, the man thus losing no time between cessation of employment and a new job. No public exchange requires the enforcement of any other condition of labor, as within its functions employer and workman must make their own bargain, the exchange cannot and must not attempt to do any more than put them into communication. If the employer offers an exceptionally low wage, the exchange simply calls his attention to the fact, and any man willing to accept the offer is free to do so.

The question of whether men should be allowed, through these agencies, to take the place of others on strike or lockout has been much discussed. To supply the men is apparently to take the side of the employer against the employee, and to refuse to supply them is to take the side of the employee against the employer. The practice most approved is to register vacancies created by a dispute and to notify them to applicants for work, but in doing this to give formal notice of the dispute to the individual applicants and also by placards placed in the exchange premises. At first the trade unions strongly condemned these labor exchanges, but after a few years the trade union congress has instructed organized labor to use these exchanges. It is believed that the conversion of hostility to support of the trade unions is due to the experience of the value of exchanges in shortening for the individual workmen the average period between one job and the next, and thus for the union diminishing the period of unemployed pay and the failure of purely trade union exchanges to secure general use by employers, except in a few trades in which the men were already completely organized, also to the establishment by employers of their own exchanges in definite opposition to trade unionism. A public exchange is at any rate better from the workmen's point of view than an exchange managed deliberately with the object of maintaining a large reserve of labor or of blacklisting individual agitators. The printing trade, however, has, throughout Germany, its own organizations maintained by a joint agreement of employers and employees.

It is very generally realized that to put on the individual workman the whole burden of finding a market for his labor is to leave to isolated action a matter that should be organized. Everything except labor is bought and sold in its own mart. These labor exchanges do not solve the unemployment problem. They simplify it enormously and are indispensable to a solution.

The labor situation in England and the unemployment question became so acute that in 1909 England determined to follow the example of Germany and create a centralized and organized system of labor exchanges. The Royal Commission on Poor Laws and Relief of Distress from 1905 to 1909 unanimously recommended the establishment of such a system of labor exchanges as an essential part of any scheme dealing with the problem of unemployment. In September, 1909, the act was formally passed to this effect. In 1905, under the Unemployed Workman Act, certain labor exchanges or bureaus were already in existence, but power was given to the Board of Trade to take over these former exchanges which had become practically of little value and most of them inactive or dead. Some sixty exchanges were begun in February, 1910, and by the first of May, 1911, the number had risen to 200, and after the passage of the Compulsory Insurance Act, in 1911, the number of these exchanges had risen to 400. It is contemplated by establishing local agencies for the labor exchanges in various districts that there will be within 5 miles of any considerable body of workers an agency or an exchange to which the employee and the employer may go for the exchange of labor. The cost of these labor exchanges is borne by the national exchequer. For the purpose of administration and control, the United Kingdom is divided into eight divisions. Each of these divisions has a divisional office which forms a control center for the exchanges within its area and has a coordinating administrative authority over the whole, and there is a central office in London. All agencies and exchanges are thoroughly linked together by telephone service. A labor exchange is defined by the act as "any office or place used for the purpose of collecting or furnishing information either by the keeping of registers or otherwise respecting employers who desire to hire work people and work people who seek employment." The Board of Trade is the official body under which these exchanges act, and there are certain regulations under the National Insurance Act of 1911. Under regulation, a statement as to the existence of a strike or lockout affecting their trade may be filed at a labor exchange by associations of employers or workmen, and the officer in charge of the exchange in notifying of vacancies calls the attention of labor applicants to any statements that have been received. In 1914 there were 400 exchanges open at the end of the year. Over 2,000,000 individuals had registered and over 1,100,000 vacancies had been filled and 814,000 individuals given work thereby. The proportion of individuals given work to individuals registered was 37.5 per cent. and the proportion of vacancies filled to vacancies notified was 75.5 per cent. These labor exchanges in England were first looked on suspiciously by the labor unions, for in the previous ten years they had already distributed $20,000,000 in unemployed benefits. But in the end the trade unions have cooperated.

In 1911 the compulsory unemployment insurance was passed under the National Insurance Act against sickness. This act is compulsory for all workmen in seven trades: building, construction of works, shipbuilding, mechanical engineering, iron foundring, construction of vehicles and wood sawing. The employers and workmen each contribute 5 cents a week. The rates under 18 are 4 cents. The dues are paid through the employer and he deducts the workman's share from his wages. An amount equal to one third of the total contributions of the employers and workmen is contributed by the

government. To be able to enjoy these benefits a workman at first was required to have paid dues for twenty-six calendar weeks for the perceding five years, but in 1914 this was amended to payment of ten full contributions. Benefits are paid in an insured trade to those who have made application for unemployment benefits in the prescribed manner and who have since the date of application been continuously unemployed, who are capable of working, but incapable of obtaining suitable employment, and who have not exhausted their rights to benefits under this part of the act. A workman is not obliged to accept employment lower than that fixed by custom in his trade or locality, nor to accept work in an establishment in which there is a trade dispute. No benefits are paid during strike or lockout. If a workman has been discharged for misconduct or has voluntarily left his employment without just cause, he cannot enjoy benefit for six weeks.

Further, to prevent unemployment, one third of the contributions are refunded to those employers who keep their men regularly employed and who have paid forty-five weekly contributions during a year. Provisions are also in the law to refund contributions paid in respect of workmen working short time in times of depressed trade. Higher contributions are levied for casual employment, except that the employment of different persons on different days through a labor exchange may count as steady employment for one person. Workmen who have paid contributions for 500 weeks are entitled to the return of all contributions paid, with compound interest at 2.5 per cent. a year, when they have reached the age of 60. The Board of Trade has power to extend the provisions of the act to trades other than those specified in the original draft, and after seven years may revise the rates of contribution and prescribe different rates of contribution for different insured trades, providing no increase shall be more than 2 cents a week. The association of workmen in an insured trade may make an arrangement with the Board of Trade by which the union is repaid three fourths of the amount of benefits paid by its unemployed members, provided the total benefits paid exceed the state benefit by one third. There is also a provision for repayments of the amount of one sixth the benefits to associations which make payments to unemployed workmen, whether in an insured trade or not, provided the benefit does not exceed $4.25 per week. Any employee may obtain an annual refund of 73 cents for each workman for whom he has paid forty-five contributions or more during that insurance year. This is to encourage voluntary unemployment insurance in other than the insured trades. The benefits fixed of $1.75 per week are, of course, not sufficient for full maintenance, but do prevent destitution. These are limited to fifteen weeks in one year, and not in greater proportion than one week of benefit to five weeks of contribution, and are not paid during the first week of unemployment.

The effect of this act in England cannot be accurately estimated in comparison with the conditions of the last two or three decades. The first annual report of the Board of Trade, however, showed that the fund had expended less than was expected and had accumulated a fund of $8,000,000. Of the 1,044,000 claims for benefit, 72.1 per cent. were made directly to the Board of Trade and 27 per cent. were made through trade unions. It was further shown that this compulsory insurance had stimulated voluntary insurance of trade unions, but during the first year's operation 172 unions, with a membership of over 376,000 in uninsured trades, had made arrangements to gain the subsidy. The Board of Trade further states, in its first annual report, that its first year's experience shows among other things that compulsory state insurance is administratively practical, and that it can be introduced without destroying voluntary insurance; in fact, the amount of voluntary insurance has been enlarged under the operation of compulsory insurance. After three years the statement is further made that the experience warrants the belief that compulsory unemployment insurance administered along the lines of the British act is practical and possible.

The difference during war time in England is such that unemployment has greatly diminished. The average of the previous ten years of unemployment among the trade unions was 4.8 per cent. In 1915 the mean annual percentage of unemployment in British trade unions was 1.1 per cent. This compulsory insurance unemployment act covers between 2,250,000 and 2,500,000 workers in insured trades, but in July, 1915, there were 2,019,683 members of the trade unions under the act, which means that about 500,000 had enlisted for the war. The English labor year book for 1916, in discussing unemployment insurance, suggests that the British system falls short because it is far from universally applied; indeed at present it applies only to one sixth of the wage earners and hardly to any women. It is far from adequate, for the provision of $1.75 per week is insufficient for the proper maintenance of a family, and there is nothing to save the unemployed man from the deterioration which long unemployment almost invariably produces. It is suggested that during his periods of unemployment a manual worker should have opportunity to put in his time at self-improvement, and that he should be able to attend, free of charge, the trade schools, day technical and other classes that the local educational authorities should provide. Moreover, the amount of subsidy of one sixth of the amount paid by employee and employer is not sufficient to stimulate the trade unions to take up the unemployed benefits and, in addition, the conditions imposed by the Board of Trade requiring registration at the labor exchanges, etc., prevents some unions from coming under the clause. Attention is drawn also to the fact that under the Ghent system on the continent out-of-work pay in some trade unions is equivalent to half-pay of the worker.

In comparing the different forms of unemployment insurance, it can be said that in general the voluntary unemployment funds are hampered by the fact that only a comparatively small number of workmen join them. It is also said that the results of the Ghent system must in general be designated as slight. Its purpose, "training in self-help," has been fulfilled almost nowhere, either in the sense that the trade unions have received a greater influx of members because of the subsidies, or that they have introduced unemployment benefits. Only this has been attained—the benefits given by these unions have been increased. However, those who have received them constitute a comparatively small portion of the unemployed, even where, as in Denmark, the organization of workmen was far advanced before the introduction of the subsidy system. In Belgium, however, in the mother country of the system, comparatively few workmen reap its benefits. It is true that the organization movement has forged ahead in Germany much farther than in Belgium or in France, and that unemployment benefit has attained a much greater development there than in other countries. Yet it has thus far been impossible to determine any effect on the strength of organization, and on the development of unemployment insurance in the cities which have introduced the Ghent system. The light financial burdens which according to the tables, are necessitated by the Ghent system—in nine German cities for which we know at least the amount of the annual grants have added up to a little more than $10,000—have aided its adoption greatly, but have at the same time contributed to decreasing its efficiency in the campaign against the consequences of unemployment. Hence, its ardent champions have become convinced that at least a partial compulsory insurance system should be instituted.

It is, therefore, seen in unemployment insurance, as in sickness, health, accident insurance and care of old age, the voluntary and the subsidized methods do not reach the results desired and that some form of compulsion is necessary to bring about the universal application and the full benefits of these social insurance laws.

The Social Insurance Committee of the American Medical Association has made, during the past three years, three extensive reports to the House of Delegates which contain, it is believed, the essential information on which definite conclusions may be drawn as to the value of the various kinds of social insurance which have been designed to protect and help the wage worker from the injurious effects of the hazards of ordinary life. The origin of these laws is of no consequence. Whether we consider that they are the devel-

opment of the ancient relief societies going back among the Austrian miners as early as 1280; whether they are the development of the guilds of the middle ages in the various countries; whether it all arose as a conception of Bismarck's in Germany, thirty years ago, being used by that statesman in his endeavor to counteract the growing spirit of socialism; whether they are the expression of economic laws developing through the organized collective sense of various peoples; or whether they are an expression of a developing strong centralized state power.

With us in the United States, whatever may be their origin or development, they are bound to be modified and presented in different forms by the forty-eight state governments of this Union, and, in the end, be a compromise between federal statutes and statutes in the various states. In the great industrial development of the last century, Germany was the first one to grasp the significance and necessity of these social insurance laws, and from that country they have spread in various modified forms throughout the civilized world. The United States is the last great civilized and industrial nation to begin to put them in force. It is a noticeable feature that when any country has once taken them up or taken one form of social insurance up, these laws have invariably extended and the adoption of one form after another has followed. The failure of one little Swiss town, St. Gall, to continue compulsory unemployment insurance, and the rejection of the first compulsory accident and sickness law by the Swiss Federation have been the only two exceptions to the above statement.

Although, in Germany, the element of compulsion has from the beginning been a pronounced feature of their social insurance laws, it is an interesting study to see in other countries the development of voluntary insurance which has proved inadequate, then voluntary insurance subsidized by the state, which, although more successful, was still inadequate, and, finally, in the same country, the full compulsory insurance in order to reach universality of application and the full development of protection to those whom these laws were designed to protect. This development has been especially true in the matters of accident and health insurance. The hazards of life that social insurance has been designed to cover are accident, sickness, motherhood, chronic invalidity, old age, premature death and unemployment and provision for widows and orphans. Only England and Germany possess nearly a complete system of social insurance—a curious contrast as representing one of the most democratic and one of the most autocratic governments in the world today.

In other countries the social insurance which exists shows an irregular intensity of development in each country, whether it is because the need of each separate form is different in each country or because the technical difficulties are smaller in one form of insurance than in another. Industrial accident insurance represents the best developed branch and, as Rubinow points out, in the order of their development the other branches may be placed thus—sickness insurance, maternity insurance, old age insurance, mothers and widows' pensions, and unemployment. The development of this whole movement is so strong, so well defined and universal, that it cannot be explained as arising from any peculiar racial or national psychology or peculiar political conditions of any country. It is seen in its highest development, as has already been said, in the most democratic and the most autocratic countries today. It is rapidly developing under other monarchical, constitutional and republican governments. Peoples of Teutonic, Latin, Anglo-Saxon and Slavic ideals have taken up and developed these ideas of social insurance, and the older races of Europe—Servian, Roumanian and Hungarian—have equally adopted and developed their own modifications.

Social Insurance in the United States

Regarding social insurance as a whole, this country is still in the stage of investigation, but the rapidity with which, after a few years—less than a decade—protection against industrial accident was taken up and adopted, shows clearly that when the idea is once understood and grasped how rapidly it appeals to all nationalities, although a few years ago the accident insurance was condemned as un-American and the same adjective is being used against the other forms of social insurance today as they are discussed. It has been a noticeable feature that all official investigations in this country have led to the approval of at least the basic principle in the movement for social insurance. There is no question that the enormous modern industrial development has increased the hazards of the wage earner and has increased also the dependence of a large part of the population on their own physical well-being and working capacity. This country, today, still possesses the strongest development of individualism, but so great has been the collective development of industry and so strong the collective development of industry, and so strong the collective development of labor, that the collective protection of the individual against a universal hazard has found ready and vigorous support. Besides all that, the last few decades have shown an enormously increased development of a strong social and ethic sense of the spirit of solidarity, which sees in the abstract the justice of the endeavor to use collective protection in preference to the older idea of relying for protection on the unaided powers of the individual. Whether poverty and destitution are on the increase in modern society is a difficult problem to solve and somewhat beyond the point. It is a fact that cannot be disputed that there is a very widespread and strong determination on the part of modern organized society to prevent, or at least to remedy, existing poverty and destitution as altogether unnecessary in modern possibilities of production. It is difficult to find any scientific reason for the support of the view that this world-wide effort is altogether unnecessary or impossible in this country. The higher working capacity of the working masses of the United States, as compared with many European countries, is recognized though often exaggerated, but it is practically neutralized by a higher standard of prices and also a higher standard of living, which presses on the earnings as closely as in other countries. In any case, the fact that a very large portion of our working population only earns the necessary amount for a decent existence, and in many cases the earnings are below the physiologic minimum for the support of the family, has been repeatedly established by numerous investigations. The increasing activity of numerous charitable agencies—public and private—is sufficient evidence that wage conditions alone in this country are unable to cope with the grave problem of destitution. It must not be forgotten that all insurance, whether private or social, is based on recognition of the fact that over and above the demands of a normal standard of living there are the demands of exceptional hazards and emergencies which cannot be met individually and must be met in a collective way, which is the underlying principle of insurance.

Effect of Social Insurance Laws

Let us see, then, what has been the effect of these social insurance laws in the countries where they are well developed, and the effect on the medical profession where these laws have been actively in force.

Comments by Prof. Walter Ewald, in his book on "Social Medicine," are of peculiar interest to the medical profession, as Professor Ewald is a physician and public health officer and also a lecturer on social medicine in the Frankfort Academy for Social and Commercial Sciences. In the second volume of his work not only is there a careful description and discussion of all forms of social insurance, but there is also a critical study of the general principles and details of the German social insurance legislation and also of the results of such legislation. Ewald begins with the following significant statement:

> German social legislation, which has grown throughout decades from a very small beginning to the present size and complexity, is a truly monumental work of inestimable value for the welfare and health of the people. When one studies the present-day services of this social legislation, one must arrive at the conclusion that we are dealing with a work which until very recently has given the German people a tremendous advantage over all other countries in the field of social care and protection of the workers against the hazards and sickness of their occupations. He further says, The German Empire from the very beginning selected the compulsory principle and has proven that in this way social insurance can be made successful. Opposed to this so-called

Germanic principle is the Latin principle of voluntary insurance as the basis for social legislation. At the last International Congress for Workmen's Social Insurance held in Rome, in 1908, the splendid results of obligatory insurance and the failure of the Latin principle were universally admitted. Unquestionably, optional insurance is ethically higher. Were it practicable, it would be more valuable than compulsory insurance, but optional legislation cannot furnish what compulsory insurance has done.

He concludes as follows:

The German system of social insurance is an enormous structure which deserves our fullest admiration, since insurance furnishes the implements of warfare against sickness, accidents and crime. If public health in Germany during the last thirty years has made remarkable progress out of proportion to progress in general economic conditions of the people but far beyond that, credit is entirely due for this to the system of social insurance which not only relieves its beneficiaries of the anxiety and worry caused by sickness, but even prevents such anxiety from arising.

Ewald in considering the results in Germany of these social insurance laws states that:

In viewing the results of German workingman's insurance, it is impossible to escape the feeling that we are dealing here with a social institution of the very first order. The German people are under very great obligations to their institutions for insurance of workingmen, for social insurance has saved innumerable lives, protected large numbers from becoming cripples or invalids, preserved or reestablished the working capacity and protected them from misfortune and need. It has led toward the prevention of disease and has stimulated a nation-wide struggle against tuberculosis and other social diseases. In one branch of insurance it has already extended protection to the coming generation and will also extend it in other branches in the near future. The individual has been granted his right and the social organism has been rendered an inestimable service.

So much has been said about the harmful effects of malingering, traumatic neurosis, etc., resulting from social insurance on the psychology of the German people, that it is interesting to know that Professor Ewald insists that these dangers are very greatly exaggerated, that in the field of sickness or health insurance simulation is scarcely observed and that suspicion is much stronger in the case of the voluntary members of the German system. Malingering is more frequently in the field of compensation, for in invalidity insurance the benefits are so slight there is very little opportunity to benefit by any malingering or exaggeration of disability. The simulation of disease, he says, has already existed wherever a grant of any benefit or the relief from any duty was made contingent on the presence of disease. The phenomenon of this nature followed compulsory military service, but no one issued this as an argument against such service. It was to be expected that social insurance should also develop a certain amount of simulation. Professor Ewald does not hesitate to criticize any detail of these laws, especially as to their effect on the medical profession, as we shall see later. He is not a universal eulogist.

W. H. Dawson, in presenting his book on "Social Insurance in Germany" to the English public, says in his preface:

No one who has followed the development of the German social insurance systems and who knows the immense educative influence which they have exerted upon the working classes can doubt or wonder that it is the preventive work of the insurance organizations, as applied alike to disease and accident, which most appeals to the imagination, sympathy and confidence of those in whose interest these laws have been passed. For, after all, in Germany, as here and elsewhere, what the self-reliant workman values more highly than distress benefits is a fair and full use of his faculties. What he wants is not sickness pay, but a healthy life; not accident compensation, but sound limbs and unimpaired energies; not infirmity pensions, but the opportunity and the power to follow as long as possible the employment of his choice. Hence in their aggressive campaign against disease and their constant endeavor to lessen the risks to limb and life in industrial occupations, the insurance authorities have from the first been conscious of the goodwill of the working classes, and have from no quarter received greater encouragement and praise than from the recognized leaders of organized labor. The wider effects and influence of social insurance have never, perhaps, been stated with greater clearness and force than in the following words of that keen economic thinker and philosopher, the late Dr. Albert von Schaffle: "The supreme aim of statesmanship is not the wealth and efficiency of the few, but the greatest physical, material and moral force of the entire community, by which a nation maintains its position in the struggle for existence. From this standpoint everything that makes the masses of the population secure against need, and therefore on the lowest plane contented, that strengthens a people by its own cooperative effort, that creates social peace and prevents violent agitation, that transforms the spirit of mendicancy into a consciousness of State-directed, collective self-help, and that raises the entire moral and political level of the lower classes, is of incalculable worth. And all this is done by the system of obligatory self-insurance against want and distress."

The president of a large association of employers in the iron and steel industry states that:

According to our observation the employers willingly bear the costs which the insurance laws impose on them, and it is doubtful whether a single employer would wish to be without these laws so far as the cost is concerned. The laws pay employers from their own standpoint, since they, too, are given a greater feeling of security. They are free from moral and physical burdens which the individual would not be able to bear, and they are protected against the constant disputes with exacting claimants. The best proof that the expense cost to employers by the compulsory insurance laws is borne most willingly is furnished by the fact that so many firms in addition carry on voluntary welfare institutions in behalf of their employees.

A certain amount of dissatisfaction is sometimes felt by employers on the ground that the insurance laws are believed to be to some extent abused. These statements are often made more strongly in conversations than in written testimonials, and it is said that the laws have been accompanied by one petty drawback—an increase of querulousness and of simulation on the part of the injured and sick; but these abuses are acknowledged to be negligible when compared with the great advantages of the laws.

It is idle to pretend that attempts are not made, and often made successfully, to obtain benefits improperly. But in discussing these, it is said that while there is a tendency to create in those who are not fond of work a diseased craving for pensions, wherever possible for life, on account of trivial disablement. This is called pension hysteria and is a characteristic of the accident insurance system to which medical men have emphatically called attention. Phenomena of this kind naturally reduce somewhat the value of the insurance systems for the improvement of the national health and strength; yet, in spite of all, the advantages of these systems are so great that the disadvantages alluded to, while it is necessary to combat them, cannot be mentioned in comparison.

Another statement that the standard of life of the workers has been raised by the insurance laws admits of no doubts whatever. On the other hand the sense of responsibility has been weakened owing to the fact that these laws have relieved the workers of anxiety and will do so in a greater degree when the projected insurance to widows and orphans is introduced. Another employer says that the assurance that the law will provide for all the vicissitudes which may befall them and will intervene under all circumstances in case of need weakens the feeling of responsibility in many workers, and this he regards as the most serious defect of these laws. On the other hand, it is certainly significant that many German authorities on the insurance laws, on long observation of their operation and influence, have come to the conclusion that it has encouraged, not discouraged, thrift, and, in general, have proved educative and morally stimulative to a marked degree. The following editorial appeared in a labor newspaper in November, 1908:

The serious objection is made against the insurance legislation that it has destroyed the workman's consciousness of responsibility. It is contended that the workman is so well provided for by insurance that he no longer feels under any necessity to care for the future. This complaint is unfounded. In the first place, it must be pointed out that the insurance benefits supply but a fraction of what a working class family needs in time of sickness. To the extent that this is the case, providence is actually impossible except in isolated cases. In many reactionary circles, however, spectres are seen everywhere, though none exist. Here and there the idea seems to prevail that the workman's strength should be strained to the utmost by exposing him and those dependent on him to abject want directly his health gives way. But a contented and efficient working class will never be created by any such means. Experienced teaches every day that the workman is happiest in his work and brings the greatest interest to the welfare of the community when he has the tranquillizing thought that he has a certain security even in bad times. The contention that his feeling of responsibility is disappearing is absolutely unfounded. Rather the contrary is true.

The attitude of the German working classes toward these laws is unquestioned—a complete change since the earliest of these laws was passed. The Socialists were among those who voted against it; the Socialist party also criticized severely the first old age and invalidity law, but when the law was amended ten years later, the voting in its favor was almost unanimous. Since then the labor party in the Reichstag has warmly supported any development of the social insurance legislation, although often disagreeing with

the parties in power in matters of both principle and detail. It is safe to say that of all the laws passed in the interest of labor since the laws were established, the insurance laws are the most valued of the working class and this holds good particularly of the sickness and invalidity insurance laws. Dawson goes on to say that not only so, but the German workman bears the cost of insurance, heavy though it is when compared with that which will fall on the working classes of England under the National Insurance Act, with marked willingness, and looks on the weekly deduction of his high contributions as perfectly equitable and self-evident. What makes the German workman specially attached to the laws is the knowledge that the benefits which they confer are, in virtue of his large contributions, a right and not a benefaction.

One employer is quoted as saying that it cannot be said that the insurance laws have created a more contented working class. That the work people themselves are contented is not maintained. Even with the benefits under the insurance laws greater than they are and granted at the employer's expense, there would be no permanent satisfaction of the work people's wishes; but the reason for this lies in human nature and not in the laws.

All these quotations would seem to show that the laws have accomplished what they were designed to do. But they have not accomplished results for which they are often held responsible and for which they were never designed. That is, these laws have been designed especially to relieve the distress and strains of want when the income of the family ceased, through accident or sickness to the wage earners, or when the income of the wage earners of the family ceased through invalidism or old age. These laws were not designed to cure pauperism, nor were they designed as a cure of poverty. They were designed to prevent poverty changing into destitution through the hazards of accident, sickness and old age, and this, in Germany, they seem to have done.. There seems to be a difference of opinion in Germany, as elsewhere, as to whether or not, if by one's own efforts one can, by small investments, make secure one's existence against the results of these hazards and against the results of sudden and persistent unemployment, one thereby weakens the moral fiber and weakens the energy of the wage earner. Does worry and the fear of want, does the never haunting spectre of destitution increase the moral courage and the mental vigor of the wage earners who live on such small wages that their existence is one of from hand to mouth?

The point of view that destitution and the necessity of an appeal to charity are necessary for the spiritual and moral development of the working classes and that the poor should be kept poor that the well-to-do may develop spiritually by the giving of charities, are not doctrines that are founded on scientific basis or that appeal to ordinary vigorous common sense. These laws are not designed in Germany or anywhere to cure pauperism beyond the endeavor to keep poverty from turning into destitution and from discouragement and hopelessness changing into pauperism, for we must clearly differentiate, in studying these laws, the difference between poverty, destitution and pauperism.

PAUPERISM, POVERTY AND DESTITUTION

Pauperism must be clearly differentiated from poverty, that larger and more important problem which presents many aspects which may be wholly unfamiliar to those who know only pauperism; some of those aspects face toward economic reform, others toward health, housing or the administration of justice. Poverty is really an economic maladjustment in which the economic environment has so overwhelmed the individual that he is unable to rise out of it. Sickness, malnutrition and the resulting discouragement often turn poverty into pauperism, for, psychologically, pauperism is poverty plus a mental attitude in which are mingled discouragement, lack of ambition and imagination, thriftlessness, irresponsibility, passive resignation to a parasitic relation to society, often the result and expression of feeblemindedness."

17. Devine, E. T.: Pauperism, An Analysis. N. Y. School of Philanthropy Studies in Social Work, Nov. 9, 1916.

Destitution is when the economic wants produced by poverty become so severe that families must face starvation or turn to charity in order to live. Social insurance laws are designed to relieve the economic environment of the working classes that the ordinary hazards and emergencies of everyday life may not overwhelm them in their economic struggle, and while they may not prevent the calamity, they do protect against its effect. They have, in Germany and elsewhere, prevented poverty from turning to destitution, but feeblemindedness and degeneracy produced by alcoholism and the misfortunes of the weak and inefficient they have not prevented, nor do they protect against the consequences from these defects in human nature nor are these laws so designed to do. Many criticisms are expressed in this country that because they have not cured and prevented pauperism and poverty these laws have failed in other countries.

In England one may see more clearly the effect of a compulsory insurance law put into force. In Germany a generation has passed by since these laws were first promulgated, and one can well see in that country the effect of a generation of these laws in abolishing the slums and excessive mass of destitution that was present in England in the latter part of the last century. Although the laws in England have been in vogue but six years and during three of those years the nation has been under the stress of a terrific war, during which unemployment has practically ceased to exist, however, it is still possible to judge somewhat of the effect produced on the economic condition of the working people. One very noticeable feature of the effect of the English law was the enormous amount of unsuspected sickness that it brought to light, especially among the women. These women had been unable to stop their work and properly care for themselves, but had to drag on half sick, struggling on with their work. Physicians working among them were surprised at the amount of real illness which came to light when these people, by right and not by favor, could go to a physician and ask for proper care.

Under the present industrial organization we have shown, under unemployment insurance, that unemployment is one of the most frequent causes of continued poverty and destitution. How the unemployment insurance can relieve poverty and, together with the sickness insurance, relieve the hazard of cessation of income, can be shown in a certain measure by the effect of the English insurance law in its relationship to the working of the English Poor Law. It is difficult, however, to unravel the two effects, because the two years previous to the war in England were years of exceptional prosperity and unemployment had not been at so low a figure for twenty years. Since, therefore, there were fewer people in need of assistance, it is very difficult to disentangle the era of prosperity from the effects of the Insurance Act. The Insurance Act, moreover, touches the Poor Law only where the Poor Law touches the sick wage earner. In Manchester, a large cotton center, the actual number of payments of the Poor Law aid, outside of the workhouse, have decreased 30 per cent. The total number paid had decreased 25 per cent. in 1913, as compared with the previous year. Among the Liverpool dock laborers, who are wretchedly paid, it is estimated that in half of these cases which received the sickness benefit under the Act the families would have been broken up and relief under the Poor Law workhouse sought, if it had not been for the benefits of the Insurance Act. The figures for all England and Wales show that the application for relief on account of sickness or accident outside of the workhouse have decreased nearly 15 per cent. in January, 1914, as compared with the previous year. The cash sick benefits, therefore, had a very real effect in reducing the claims for Poor Law aid.

MATERNITY BENEFIT

The maternity benefit of $7.50, payable to the wife of each insured workman has had an even more marked effect. In the Poor Law Unions of London, the orders of attendance for midwives had decreased 60 per cent. in 1913 as compared with 1911. The London Poor Law Union shows a diminution of 20 per cent. in the calls for the parish doctor in the year 1913 as compared with the year 1911. The Poor Law

can thus be said to be relieved by the Insurance Act. This, however, was in the case of the wage earners who are least affected by the Insurance Act, for most of the classes that are affected by the Poor Law are not those insured. Under the Charity Organization Society the guilds of help touch a different stratum of the working population and one which is more largely insured. It is found in this group that in some cases the money from the Insurance Act was only adequate to meet the needs of the families. The Bradford Guild of Help found the per capita amount paid out in 1913, as compared with 1912, was nearly one third less, so that the Insurance Act definitely reduced not only the number of cases but the amount of final aid necessary.[18]

Another reaction is interesting, that some families who formerly resorted to the Poor Law now applied to the voluntary organizations, because with a sick cash benefit they are able to get along to a certain extent where previously they could not get along at all, and also they are applying for aid during convalescence. This increase, according to Miss Halsey, is attributable both to the ability of the insured to pay in part for this hitherto impossible luxury and to the increased medical attention now received by the industrial workers. It is further said that the increased number of operations, the pressure on hospital wards, the doctors' encouragement of a period of rest and recuperation are the undoubted causes of expansion in this field of charitable work. Where the Act is increasing work, it means that the Act has brought a new standard of treating sick persons, even though they may need some charitable assistance. Although these British hospitals are not legally a part of this Insurance system, they are very closely affected by the Insurance Act. The first, and one of the most important changes, has been the decrease in the number of outpatients. That decrease has come about because about one quarter of the outpatients are insured persons. These insured persons when they come with something which their panel doctor is able to care for, are referred to the panel doctor, and in the large London hospitals this decrease amounts to about 2 per cent. That the decrease is not greater is due to the use of the specialties—that is, the Roentgen ray and the departments for ear, eye and throat, this being work which the general practitioner cannot handle. The increased use of special departments is definitely stated as being due to the more general use of physicians by a large part of the population, many of whom have not been able to afford this luxury. In the London Hospital, the largest hospital in London, the increased number of patients who come with letters from their doctors amounts to about 50 per cent. A far larger proportion of insured persons come with letters than of the noninsured, due to the fact that the panel physicians found that the insured needed hospital treatment which they were unable to give. Moreover, it was noticed that an increased number of patients was admitted to the hospital wards from the outpatient department, showing also that a larger number of out-patients than was supposed were very seriously ill.

Another phenomenon noticed is the reaction of the maternity benefit on maternity work of hospitals. As a result of the mother's increased ability to pay for assistance, the outpatients in the maternity departments of the general hospitals in London decreased some 13 per cent. in 1913 as compared with 1912. In the maternity hospitals themselves a similar decrease of in-patients occurred, while the out-patients decreased 31 per cent. It is evident, therefore, that the Insurance Act, with its benefits of medical aid, sickness and maternity benefits in cash, has reduced the amount of charitable assistance necessary to the wage earners in England and is also serving to increase the standard of medical care given to the wage worker.

It is evident from the above figures that the economic position of the wage workers in England has been improved by the Insurance Act. This is definitely seen in the reduction of the Poor Law relief and also in the reduction of charitable medical services, as seen under the effect of maternity benefit. The workers are evidently able and willing to pay for services under this insurance law with its cash benefits for which they formerly were forced to seek in charity. It is evident, therefore, that under these insurance laws economic conditions for which they formerly were unable to provide can be taken as routine hazards. There is no question, also, from the above figures, that improved medical care has been given to the wage earners and that with improved medical care there must necessarily be improved health and an improved economic welfare. That this is so is very evident from the following personal communication from James Neal, Deputy Medical Secretary of the British Medical Association, to the Chairman of the Social Insurance Committee:

> Speaking generally, I should say that the insurance scheme has effected an improvement in the economic condition of some of the people it was designed to benefit in that many—and this especially refers to women workers—who previously could not afford medical advice and treatment now have it provided for them, and who even if formerly able to obtain medical advice were frequently prevented from following it as they could not afford to stay away from work, whereas now they are assured of a certain sum (sickness benefit) per week which enables them to take advantage of the medical advice given them. The question as to whether or not the insured population is satisfied with the medical care provided under the Insurance Scheme is a little difficult to answer definitely. Generally, however, I should say that they are satisfied, so far as it goes. There is an undoubted feeling on the part of insured persons that the scope of medical benefit should be extended. So far it is limited to those matters falling within the competence of a medical practitioner of ordinary skill. This limitation is, of course, purely a matter of finance, as at present there is no money to pay for operations and specialist services, though had it not been for the war it is believed a move would have been made in that direction.

OLD AGE PENSIONS

It has already been pointed out in discussing the old age pensions in Denmark that at times the important effect of some social insurance laws, such as the old age pension given in Denmark in 1891, was to cause a diminution immediately of the amount of poor relief necessary, and for five years, up until 1896, this expectation was fully realized. Since then, however, in Denmark, the expenditure for poor relief has steadily increased. This is probably due because new standards are formed when once the standard of absolute destitution is passed, and in the beginning most of the insurance pensions given abroad have been only enough to prevent starvation and keep body and soul together. They have not been enough really to live on. Doubtless as the years have passed, public opinion has realized—and the state has acted accordingly—that if anything was to be done there should be sufficient given to enable a person to live and not deteriorate under the stipend given. This has been done probably by the state increasing its relief rather than guaranteeing to furnish an increase of pension. Whether or not the social insurance laws can be said successfully to reduce permanently poor relief is a very difficult question to answer. The immediate results in England and Denmark were that it was. In a very comprehensive investigation in Germany, twice by the German union for care of the poor in 1895 and 1901 and again under the German Imperial Statistical Office in 1894, this question was very carefully studied. The results obtained from their investigation were not sufficiently conclusive one way or the other. In some communities it seemed evident that the care of the poor had been relieved by workmen's insurance and in other communities no such effect could be seen. The truth probably lies in the fact that no system of poor relief has ever actually met the full need of what was required of it. Until a clear cut differentiation can be made between poverty and pauperism—the first relievable, the latter not—the question will remain unanswered. The state must care for its pauperism by other means than insurance. It is evident, in England, that the first reaction of the insurance law was distinctly and clearly to relieve sickness and poverty. Both can be relieved and the effects of both can be controlled by social insurance laws.

LABOR EXCHANGES

The effect on unemployment and labor of the British system of labor exchanges can be seen in a small degree. The Insurance Act forced the payment of the benefits of unemployment through the labor exchanges, making the exchange

18. Halsey, Olga S.: The Reaction of the British Health Insurance on Existing Charities. Proceedings of the New York Conference on Hospital Service, **3**, 1916.

the corner stone of the edifice, for no payment is payable unless proof exists that the claimant is desirous of working, if work of a suitable character can be found for him. This means an obligatory use of the labor exchange, for it is the only possible test of willingness to work that can be sanctioned by the state.[19]

One very important factor of these labor exchanges has been the decasualization of labor. It was found in the harbor cities of London and Liverpool and in many manufacturing centers that the normal margin of unemployed labor consisted of men who never worked more than a few days at a time, earning wages that sometimes were fairly good as reckoned by the hour, but insufficient to maintain themselves and their families in health. By recruiting this labor at a central labor exchange instead of at the door of each employer, the total volume of available work was distributed in such a way as to give regular or nearly regular employment to the previously casual worker. Of course, some by this method went entirely without work, but they were the most unfit and practically drifted out of the field and were practically those who were suffering from unemployment and disability to work. The cloth porters of Manchester and cotton porters of Liverpool were treated in the same way so that through the labor exchange these men obtained steady employment for several employers each week, instead of wastefully wandering round and losing jobs which they might have had through ignorance of where to go.

Another feature of the scheme was the payment of advances of wages to men who were not accustomed to waiting for the weekly pay day by sums deposited in a clearing house for this purpose by employers at the beginning of each week. A diminution of the seasonal effect has also been brought about through the exchanges by arranging with big corporations to save some of their work that could be done on optional time for the slack seasons and arranging with the supplying of labor to the fruit and hop pickers.

The exchanges also have proved of great value in organizing the female labor market during the war. The increase in female labor in some of the exchanges has amounted in 1914 to 60 per cent., in 1915 to an increase of 89 per cent; in the month of January, 1916, the increase of women working was 131 per cent. over 1915 for that month, and the men diminished 41.2 per cent.

Another effect of the labor exchange has been to steady the work of the boys and girls beginning work by keeping those who show an aptitude steadily on the job and helping those who do not show aptitude in their given work to other positions.

The employers appreciate greatly this new method of marketing labor for they have been able, through the exchanges, in the north of England, to obtain workers from the south of England without delay. The writer concludes that the labor exchange has fully proved itself as a useful instrument of the highest value. It has brought thinking persons, both of the employing and working classes, to a fuller realization of the many misfits, hardships, physical and mental breakdowns which could be avoided by a more careful selection of employees on the one hand and positions on the other. It has provided the nation with reliable data on the state of employment comparable for different times, different trades and different localities on a sufficient scale to permit of safe deductions. It has helped the scientific analyses of the problem of unemployment and thereby brought appreciably nearer its final solution. The British system of labor exchanges has slightly yet distinctly reduced unemployment.

STATE COMPENSATION LAWS COMPARED

What is the situation in this country at present? We have in thirty-eight states of the Union workmen's compensation laws designed theoretically to protect the wage earners against the effect of industrial accidents. With these laws there has been a change of legal conception regarding injury. The old Anglo-Saxon idea that proof must be brought forward to show where the fault for the accident lay before compensation could be given to the person injured has been changed to a conception that not because of fault should the injury be recompensed but because of the injury, and the industrial development of the country has finally come to realize the fact that human injury, disability and death should be charged to the industry that produces this wastage. The Social Insurance Committee has undertaken, through Dr. Rubinow, a comparative study of these compensation laws in the various states. This study is now in print. From a careful reading of these laws as at present administered it is very evident they are designed chiefly to protect the employer against suits for damages, to give the casualty insurance companies a generous profit. They are designed to give a more speedy return for damages than formerly, to undertake the responsibility of permanent disability by money recompense, and they are designed to do this at just as low a cost to the employer and insurance company as it is possible to do. This would be just and fair provided adequate care were given to the injured and a fair recompense and just dealing were given to the surgeon. In many of these laws only a pretense of adequate care or justice to the surgeons exists. The injustice of these laws has done more than anything else to array the medical profession against all social insurance legislation.

The laws in most states give a certain arbitrary amount of care and expense. It throws all the rest of responsibility on the injured workman where it is unjust that it should be placed, and it throws the really adequate care of serious injury on to the charity of the medical profession, which is equally unjust.

In Rubinow's standard accident table (considering only those accidents which caused disability on some other day besides the day of accident) out of every 100,000 cases it is shown that the period of temporary total disability has not expired:

After 7 days in	62,504
After 14 days in	38,218
After 21 days in	25,692
After 28 days in	18,479
After 56 days in	6,043
After 91 days in	2,204

Taking some of the states, therefore, such as Texas for example, where the time limit that care can be given to the injured is seven days; nearly two thirds of the accidents are still disabled when the employer's or carrier's responsibility for the care ceases. Rhode Island, Iowa, Louisiana, Vermont, Montana, New Jersey, Hawaii; Maine and Pennsylvania cease to care for their injured after fourteen days, which leaves over one third still to be cared for and, as a matter of fact, nearly two fifths. Moreover, in these states, Montana, New Jersey, Hawaii, Maine and Pennsylvania allow for the entire care of $50 in the first three, $30 in Maine and $25 worth of medical and surgical care in Pennsylvania. The shortness of the time in which recovery must take place is only equalled by the parsimony of the amount allowed for the medical treatment, for the care of the seriously injured. Alaska, Washington and Wyoming make no provision at all for medical care. Arizona, Kansas and New Hampshire give no medical aid, except the cost of the last sickness. If they are sure the man is going to die, they are willing to give some medical and surgical aid. Here, there is no appreciation of the value of recovery of economic efficiency or of the value of the laborer to the community.

At the other extreme, no time limit is set in the Canal Zone, under the United States service, Connecticut, California, Massachusetts, Oregon, West Virginia, Ohio and Maryland, and no money limit is put in the first five named. Oregon and West Virginia, Ohio and Maryland limit the amount from $300 to $150. Other states give a time limit of care, such as Nevada, 120 days; Wisconsin, Minnesota and Kentucky, 90 days; New York 60 days; Porto Rico and Illinois, 56 days; Indiana and Colorado, 30 days, and Michigan and Nebraska, 21 days, and vary their money limit from none to between $100 and $200. When the limit of care is kept up for eight weeks, or sixty days, the number of accidents left uncared for is very much smaller, and after thirteen weeks have expired—which is the limit of care under accident laws in Germany—only about 2 per cent. remain.

19. British System of Labor Exchanges, Bulletin United States Bureau of Labor Statistics, No. 206.

The cost of medical aid in these cases is interesting and the experience of Ohio will best bring it out. Ohio has no time limit for its medical benefits and the money benefits are set at $200. Only 1.2 per cent. of the cases cost Ohio for medical aid over $50 during the period of March 12 to September 15, and although during a later period there seems to be a rise in cost of medical aid, the proportionate cost did not rise above 2 per cent. The tables in the Ohio report show that if the medical benefit granted is unlimited in time, only four cases out of a thousand will be affected by the money limit of $100, only two out of a thousand by a limit of $150, as in Maryland; and only one in a thousand by a limit of $200.

Great stress is laid in certain publications on the amount of medical fees received under these compensation laws. As a matter of fact, in the early days of the laws the ratio of medical fees which become immediately due were calculated to the amount paid out of immediate insurance, leaving out all ratio of outstanding insurance and disregarding also the ratio in proportion of wage expenditure. That is, all compensation insurance charges are calculated in proportion to the pay roll exposed. For instance, the Massachusetts figures, in the first group given, cover a wage expenditure of some $505,000,000 and for the second period some $395,000,000, making a total of $900,000,000 on perhaps 1,800,000 annual workers. Expressed in this proportion to the payroll exposed, the cost for the first period was 7½ cents per $100 of wages, and during the second period 9½ cents, and for the entire period about 8½ cents, or on an average wage of $600, 51 cents per worker. A very large body of experience of the most important casualty companies seems to indicate that as against the Massachusetts cost of 8½ cents per $100 of wages, the cost in Michigan was 10.8 cents and in Illinois 13 cents and in New Jersey only 6.4 cents. This does not support the much talked of medical graft of the subject.

Compensation for Physician's Service

There is no question that these laws have brought out the fact that the payment of injury, according to fee bills, is neither just to the injured one nor to the medical profession. You cannot gage injury or medical care to the seriously injured individual on the law of averages and bring justice either to the injured or to the physician. At present the method of paying for medical compensation puts a premium on careless medical work and does not put a premium on the best work. There is no question that in the near future some new method of compensation must be devised by which the relative amount of economic efficiency retained by the worker shall be one basis of payment and the rapidity with which the patient goes back to work shall be another consideration, and injuries shall also be considered in ratio to the severity of injury and the condition of their infections.

This is not a purely theoretical consideration, but is possible of attainment, and a committee of the Medical Society of the state of New York has already been appointed for taking this under serious consideration. This subject, together with a discussion of the necessity of free choice by the patient of a physician, is fully discussed in the report by Dr. Rubinow to which those wishing further information are referred.

Voluntary Welfare Work

A very noticeable feature in this country is the enormous increase of voluntary welfare work among the big industrial establishments by which they are endeavoring to improve the social and economic condition of their wage earners. Among many establishments there have been formed establishment funds which take up the question of insurance, of accident sickness and even old age and retirement pensions, among their individual employees. Some of these are on the mutual benefit plan by which employees permit a certain deduction from their wages which gives them a beneficiary right to the advantages obtained, while others have certain benefits given outright by the employers. The pension funds of some of the big railroad companies are on a noncontributing basis of the employees. They are purely and simply the rewards given by the employer for services well done.

Unemployment

We have shown under the statistics of unemployment tremendous fluctuating employment in this country and the tremendous fluctuations of seasonal occupations and the variations between good and bad times. At present, and in all probability in the near future, this country will have less and less unemployment and there is no question that with the war and with the destruction of life and peoples in Europe, in the very countries from which, in recent years, this country has drawn its vigorous, unskilled labor, the immigration which has come to these shores so abundantly will enormously diminish and there will be a dearth of labor and a rise in wages. At present, however, there is no question that even in good times the wage earners of this country are unemployed for from one fifth to one fourth—20 to 25 per cent.—of the working days of the year. Those that are dependent on their daily wages have thus to consider a further diminution of what is apparently their actual wage. All investigations on the amount of wages have shown that about four fifths of the men and nineteen twentieths of the women earn less than $600 a year to support their families, and this amount of wage is not able, even in this country, to support these families on a fair standard of living. This is one cause of the enormous mass of woman and child labor. Some years ago, in the investigation on living wage by R. C. Chapin, in New York, it was shown that an income under $800 a year is just sufficient to permit the maintenance of a normal standard. Anything below this amount means that the difference must be eked out by taking boarders into the family or by the labor of the women and the children.

Wages and Expenses

An increase in wages will not entirely compensate and care for the extra hazards of life, for even with the steadily rise of wages in this country since 1899, taking the wages of that year as 100.6 per cent. (as has been done by Rubinow in his computation of the value of real wages) the weekly earnings from 1899 at 100.6 per cent. have steadily risen to 131.6 in 1912. But the retail prices of food have risen since 1899 from 100.8 to 154.2 in 1912, so that the purchasing power measured by retail prices of food has dropped in 1912 to 91.8 per cent., if calculated by hourly wages, and if by weekly earnings, wages have dropped in purchasing power, in 1900, from 100.2 per cent. to 85.3 per cent. in 1912. These figures are for this country before the war prices of the present moment were in vogue and show that while a rise in wages has occurred, the purchased power has diminished so that today the hazards of life of the ordinary wage earners bring a still greater strain on the income of the working classes.

It is more and more a fact that individually these are more difficult to be borne, and it would seem that in the near future it would be the part of wisdom to undertake some collective steps, such as insurance, to protect those of the population who need it the most. It is a noticeable feature that all official bodies or commissions that have been appointed to study this subject, as the California and Massachusetts Commissions, have reported in favor of these social insurance laws in principle and have particularly drawn attention to the necessity and wisdom in the near future of protection against the hazards of sickness.

Poverty and Sickness

How much sickness is apt to change poverty into destitution was shown some years ago by Edward T. Devine[20] of the principal disabilities present in 5,000 dependent families in New York. Unemployment was the principal disability in 69.16 per cent. Chronic physical disability, other than tuberculosis or rheumatism in 27.3 per cent.; temporary disability, other than accident or child birth, 19.68 per cent. Tuberculosis was in 12.38 per cent. and rheumatism in 6.94 per cent. Thus the chronic disability, including tuberculosis and rheumatism, was present in 46.62 per cent., and the temporary disability, including childbirth at 7.26 per cent. and accidents at 3.96 per cent., was in 30.9 per cent. of the cases. Destitution through lack of economic powers of old age was in

20. Devine, Edward T.: Misery and Its Cause, p. 204.

12 per cent. It is a noticeable feature, however, that the characteristics of the real pauper—laziness, shiftlessness, intemperance, unreliability and the disposition to beg and mental disease and deficiency—occurred in 44.64 per cent. of these families.

The more recent figures in California, giving the cause of destitution in 5,296 cases, state that 2,652 were caused by illness and unemployment; low earning capacity by 1,816; illness in members of the family was responsible in 234 cases. Illness of the wage earner was the direct and sole cause in 911 cases. In almost one fifth of the cases in which illness was found, pregnancy of the woman was the chief reason for application for help. Medical attention and financial assistance were both needed as the woman was unable, because of her temporary physical handicap, to do her part in the support of the family. In 11 per cent. of all the cases applying for help because of sickness, tuberculosis was the specified disease.

The California Commission further states that:

> The burden of serious illness is sending married women with children to work. It is causing many honest and conscientious wage-workers to go without sufficient food and clothing. It is forcing an increasing number of families to become recipients of medical and general charity. In the endeavor of the wage-earners of California to protect themselves, it was shown that little more than one-third of the wage-earners of the State are protected through voluntary efforts. A great majority of the one-third are the better paid workers and not those of the smaller earning capacity who are in even greater need of protection.

It is useless to pile up statistics. These are fair examples of what can be found throughout the United States. They are well gathered together and put forward in Warren and Sydenstricker's report in Bulletin 76 of the Treasury Department.

Again, in studying the possibility of the purchasing power of the wage earner's income, Nearing[21] states that:

> To those whose incomes are recorded in thousands of dollars, incomes of hundreds of dollars seem insignificant, yet it is true that among the wage-earners engaged in American industry, not more than one in ten has an annual income of $1,000 and over, while fully half fall below $600. The vast majority of wage-earners must therefore estimate their incomes in terms of hundreds. The individual budgets, cited in the appendix, which might be duplicated at will, in tens of thousands of instances, bespeak eloquently the economic struggle of those who do the work of the modern industrial world.

The effect of all this at present on the medical profession is that they must turn to the charity of the physician to receive adequate care when illness comes on them. The majority of wage earners cannot afford to employ their own physician and retain the relationship of physician and patient which the more fortunate in life enjoy.

Dispensaries in New York City

No adequate study of the dispensary figures and situation in any large city has been given out. For that reason the Social Insurance Committee undertook an investigation recently in New York City as to the dispensary situation in the year 1915. The following figures obtained are of interest.

The number of dispensaries in New York City is 106. The number from which reports could be obtained was ninety-two. The population of New York City in 1915 was 5,468,190; the number of patients treated in ninety-two dispensaries was 2,211,437. One of the dispensaries unwilling to make any report was one of the largest in the city, working on the east side among the poor. These figures, therefore, understate the realities rather than exaggerating them. The number of visits paid by these patients in 1915 was 4,050,036. The number of patients per hundred of the population treated in the dispensaries was 19.6—that is, practically one fifth of the entire population of New York City was treated that year in its dispensaries. The number of special dispensaries treating all diseases was forty-nine and special clinics, thirty-five. Eight dispensaries made some specified exceptions to the diseases which they treat. The charges made in these dispensaries for the first visit in 17 dispensaries was 15 cents or over; in 51 dispensaries, 10 cents, and 3 dispensaries charged 5 cents. No charge is made in 21 dispensaries. The charge for subsequent visits is: 9 dispensaries charged 15 cents and over; 42 dispensaries charged 10 cents; 1 dispensary 5 cents, and there is no charge in 40 dispensaries. Ten per cent. of the dispensaries charged 15 cents or over for their continual treatment and the remaining 90 per cent. were equally divided between no charge at all and 10 cents. Prescriptions were charged for in 32 dispensaries over 10 cents; in 35 dispensaries 10 cents and under; in 15 dispensaries prescriptions are free, and there are various charges in 10 dispensaries.

Working in these dispensaries are found 3,031 physicians of the 8,000 physicians in New York City. That is, 37.5 per cent. or three eighths of the entire physicians of the city work in these dispensaries, giving their services in the majority of cases for nothing. The two following tables of the distribution of patients according to specialties and the distribution of visits according to these specialties are particularly interesting.

DISTRIBUTION OF PATIENTS ACCORDING TO SPECIALTIES
(Data available for 1,014,000 patients)

Medical class	221,000	or 21.8
Surgical class	188,000	or 18.5
Pediatrics	94,000	or 9.3
Gynecology	47,000	or 4.7
G. U. and Skin	79,000	or 7.8
Neurology	23,000	or 2.3
Eye, Ear, Nose and Throat	209,000	or 30.5
Orthopedic Surgery	29,000	or 2.8
Dental	24,000	or 2.4

DISTRIBUTION OF VISITS ACCORDING TO SPECIALTIES
(Data available for 2,988,000 visits)

Medical class	604,000	or 20.2
Surgical class	574,000	or 19.2
Pediatrics	215,000	or 7.2
Gynecology	163,000	or 5.5
G. U. and Skin	332,000	or 11.1
Neurology	130,000	or 4.4
Eye, Ear, Nose and Throat	790,000	or 26.5
Orthopedic Surgery	92,000	or 3.1
Dental	86,000	or 2.0
Total	2,988,000	100.0

It is seen in these tables that two fifths of the patients are in the general medical and surgical classes, that is, about equally divided between the two. The general medical class, therefore, takes one fifth of the patients and practically one fifth of the visits. Surgery takes practically the same. The eye, ear, nose and throat classes take practically one third of the patients and 26.5 per cent. of the visits. It is seen, moreover, that one half of the patients go to these dispensaries for treatment in specialties which the general practitioner does not give them, for putting pediatrics into general medicine and classifying that the ordinary practitioner shall be an old-fashioned practitioner of children and medicine and surgery is seen that 49 per cent. of the patients come for these three classes. As a matter of fact, however, surgery is today a specialty and under any social insurance laws the surgeon would have to be calculated and treated as a specialist. The general practitioner then, if he included the care of the children of the family, would be able to give 27.4 per cent. of the treatment that was given to the people as in the general medical classes and to children. The majority of care, therefore, desired by the people coming to these dispensaries is something which the general practitioner does not give and, in England, is not expected to give. It shows, further, that the dispensaries in this country are gradually and unconsciously developing a sense of group medicine, because not only are the general practitioner and the various specialists represented in these dispensaries, but very thorough pathologic work and the work of clinical microscopy is extensively done. Thirty-five dispensaries connected with hospitals used the pathologists in the hospitals. Thirty-one dispensaries had special pathologists for the dispensary and in thirteen dispensaries the laboratories of the board of health were extensively used, although but four of the dispensaries under consideration were officially affiliated with the public health department. There are over 12,000 blood examinations reported as part of the routine work of these dispensaries, over 15,000 sputum examinations, over 35,000 urinary examinations. Fifty-two dispensaries had

21. Nearing, Scott: Financing the Wage-Earner's Family, p. 167.

Roentgen-ray rooms which are extensively used, for in the forty dispensaries reporting on it, 33,000 patients were roentgenographed, using 57,000 plates.

There is a further development in these dispensaries which is not given in these figures and that is development of the care of the patients in their homes by the physicians hired by the dispensaries. There is a follow-up medical care being more and more developed in New York City. Probably the physicians are paid about $25 a month for this and the care is given free to the patient or for the same amount that is given while visiting the dispensary. In other words, there is a social development of medical care equivalent to that which would be given under sickness insurance, and it is gradually developing on a charity basis. This is but the logical conclusion of the situation and one that adds to the intricacies of any consideration of remuneration of medical fees under health insurance. A large number of these patients, probably 80 per cent., would be included in any sickness insurance law.

It is self-evident that under the social insurance laws the economic condition of the medical profession is very deeply affected. These laws cannot be promulgated without affecting the interests of the profession, because the medical profession is absolutely essential to the putting in practice of any of these laws. Ewald very distinctly draws attention to the position of the German medical profession before these insurance laws went into vogue and the resultant effect on the profession after the laws were passed. While in the main Ewald praises the principles of social insurance and the laws themselves, he strongly condemns the unfavorable condition of the German medical profession due to a large extent to these same social insurance laws. His point of criticism, however, is directed not against the principle of health insurance but against the particular provisions of the German law concerning medical aid, especially the permission of salaried contracts between the funds and the medical profession. He brings out very clearly the fact that previous to the passage of the insurance laws many of the physicians were giving at a very low rate of pay, part in charity and part to assist the workmen, their services to the guilds and societies on which the big insurance funds were formed. The law immediately placed the remuneration of the physicians on the same basis that they had given in charity, claiming if they could do that in charity they could have the same for a livelihood. It was the same result as the fee bills have shown in this country, that a minimum fee of a fee bill immediately becomes in the eyes of the corporation dealing with the profession the maximum fee that can be charged for anything. Another evil that proved a source of vicious results in Germany was the fact that the salaried physicians of the funds could not serve two masters. They could not serve the funds on the business basis on which they were hired and serve the patients on the professional basis which they were expected to do. Many scandals broke out by which it seemed that the physicians were in collusion with the funds to the great detriment of the professional care of the patients. The question immediately, therefore, arose of the right of free choice of physicians by the patients, and Germany has been broadly split into two camps on the subject; the Leipsic group vigorously claiming for free choice and the Dresden claiming that better results were obtained by salaried physicians and no free choice or very limited free choice of physicians in a district. Professor Ewald very energetically defends the principle of free choice of the physician and also the admission of every practitioner to the panel. That is, no limited panel at all, for Ewald very strongly believes and defends the principle of private practice in the exercise of the medical profession as a natural one that preserves the dignity of the profession and establishes the proper relation between physician and patient.

A great majority of the German profession, before the war broke out, was strongly in favor of free choice of physicians under the insurance laws. The only physicians who were opposed to it were the small minority of the salaried doctors under the funds and a certain number of older physicians who were not in touch with the modern economic movement in the profession. Although many funds, as I have stated above, were very largely opposed to free choice, this right to the doctor was slowly but surely gaining ground. The Leipzig Union in Germany, with a membership in 1910 of 24,000 out of a possible 32,000 in Germany, has, as one of its essential aims, the acquisition and preservation of free choice of the physician by the patient.

In England, just previous to the insurance laws, the same condition was in vogue that physicians were treating many poor patients for a fee much less than they could possibly live on if it were the general fee of their practice. Many physicians who cared for the members of the huge friendly societies were under a lay control, which prevented them from practicing their profession in an independent and dignified manner, for frequently in the disputes which arose between the physicians and societies, the same persons were the accusers and judges of the actions of the physicians.

Poverty and destitution among the working classes in England were so extensive that medical practice was being performed on club rates and drifting rapidly into various vicious forms of contract practice. When the law went into effect the rate that was offered the physicians was based, in the first place, on the reduced rates that the physicians had been forced to practice in their contract and charity work. The same standard was applied to them as had been applied to the German physicians in the early instances of the insurance laws. The whole plan of payment of the English profession was also one by capitation, which practically was contract practice dignified by state approval. Except in the towns of Salford and Manchester, where, although they had only a definite sum from which they could draw for their payment, the doctors insisted on choosing a method of payment per visitation and not per head per year. This method has been acknowledged to have given more satisfaction to both patients and doctors than the capitation plan so generally in vogue. It has given better service to the patients, it has given more satisfaction to the physicians, it has kept the dignity and the position of individual patient to individual physician which private practice incurs, and has diminished that feeling of so much per patient per year so inevitable under the capitation plan. The following extract is from a letter from James Neal, Deputy Medical Secretary of the British Medical Association, to the Chairman of the Social Insurance Committee:

> There is no doubt that when the Act first came into operation the majority of the profession anticipated that it would be unworkable, but these anticipations have not been realized and for the most part, the medical profession has found the Act far less objectionable than was anticipated. It is still thought by many that the clerical work falling on the doctor is excessive, and that insured persons demand treatment for trifling conditions for which, apart from the Act, they would not seek medical advice. Part of the clerical work, the keeping of records, has been dropped for the duration of the war. Many practitioners consider that the extensive contract work which the Act brought about is detrimental to the best interests of the profession, being of the opinion that it is impossible to get the best results from any form of contract practice. Many also object to the element of lay control inseparable from any such scheme, and to the disciplinary measures that have been introduced. So far as I am aware, the Act has not materially affected specialists, consultants and operating surgeons, but with a certainty of the extension of the Act so as to provide specialist treatment it is only a quesion of time before these classes will be involved.
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> The effect of the Act upon the incomes of panel doctors, as compared with pre-Act days, depends upon the class of practice. General practitioners engaged in industrial areas where practically the whole population is insured under the Act have had their incomes increased, but it must be remembered that the amount of work they have been called on to perform has also increased. Formerly many people in industrial areas received their doctoring through clubs at cheap rates, or received none at all, and these are now, of course, included in the insurance scheme. The practitioners who have suffered loss of income, as compared with the pre-Act days, are (a) those who at the commencement of the operation of the scheme refused to participate in the work, the result being that when they finally decided to join the panel the majority of the people who would otherwise have put their names on their panel lists had already selected some other doctor, and (b) those who have remained off the panel and who previously attended at private fees people who now obtain their medical attendance and treatment through the insurance scheme.

In the annual report of the Council of 1913-1914 of the British Medical Association there is a report of a committee of the British Medical Association appointed to consider in what way the Association could best promote the interests of the members who have refused to enter into agreements

with insurance committees for service on the panel system. The objections given involve the interests of the state, the insured, and the medical profession. The main objections seem to be somewhat as follows:

It is stated that many thousands of medical men refuse to work under the panel system who are not in any way antagonistic to the principles of health insurance. The committee while of the opinion that no system of contract medical practice will give the most efficient service, considers that it is not impossible to devise a system which would enable each insured person to obtain the professional services of the doctor of his choice. They believe further that it is not in the best interests of the state that its money should be spent in obtaining for the insured a needlessly restricted medical service. It is claimed that when the Act was under discussion in the House of Commons, it was frequently promised the insured should obtain free choice of doctor. At present this is denied them and they must choose between sacrificing their medical benefits or changing their doctor, and while hundreds of thousands of insured persons at present are sacrificing their medical benefits, a very large but unknown number are unable to do this because they cannot afford to sacrifice their medical benefits. This is not just to the insured. One essential reason why the medical practitioners will not work on the panel is that they object to contract medical practice being substituted for the private relations between doctor and patient. Another great objection is that the panel system handicaps the efficient work of the medical profession and puts a premium on that which is less efficient. The medical profession supplies an article of varying value—that is, their professional skill. Insured persons require that article in varying degree. The result of these two factors is, in urban districts, where there are a large number of medical men and a large number of insured persons, those insured persons who suffer most from ill health tend, more than the average person, to seek the services of those medical men who are regarded by the public as being most efficient in their work. It therefore follows there is a higher average rate of sickness among the patients of these practitioners. If these medical men who are regarded by the public as most efficient in their work give service on the panel system, they will be receiving the same remuneration per head as will those medical men who are regarded by the public as being less efficient. But the earning capacity of the former will be less because, in addition to spending more money and time in doing their work, they will actually have more work to do. As a result, the more efficient medical men serving on the panel are handicapped and the less efficient receive a bonus in that their panel lists have a diminished proportion of unhealthy lives. This is disastrous to the health of the nation, because a system which pays for good work on a lower scale than it pays for inferior work must result in a lower standard of efficiency. On the other hand, the medical men regarded as most efficient cannot select their patients and refuse to place on their panel lists the names of those who suffer above the average from sickness, because by so doing they would ignore the best traditions of their profession and the interests of those who had trusted them. Therefore, if the administration of medical benefit under the Insurance Act is continued on the present rigid system, the result must be to lower the standard of efficiency in the medical profession and to prevent the insured receiving the best medical service.

In considering then the effect on the profession both in England and Germany, we realize that the friction in the working of the insurance laws preventing them from running smoothly has been due to the fight over free choice of the physician by the patient and also due to the failure to separate the function of official medical officer of the funds from the function of the daily care of the sick. The remuneration on a basis of contract practice in England has added to the difficulties, and in Germany the remuneration of the profession has not yet been satisfactorily settled.

There are four fundamental principles in the consideration of any insurance laws in relation to the medical profession which seem to be essential for the just working of these laws: First, the freedom of choice of physician by the insured, because only in this way can conditions of mutual confidence between physician and patient be preserved. Second, a sufficient medical representation in the administration of the insurance laws, because only in this way can the profession be protected against exploitation by the insurance carriers and from destructive competition within its own ranks. Third, a standard of payment in proportion to the amount of work done, preferably on a basis of fees per visit. The payment by capitation, and competition and exploitation within its own ranks, will surely bring on contract practice and all its evils to the profession and to the patients. Fourth, there must be a separation between the medical superintendence of the funds and the daily medical care of the individual patient. The physician that superintends the medical questions relating to the funds must not be permitted to perform the duties of the personal care of the sick, nor can the physician who cares for the sick among the insured act in the position of superintending medical questions relative to the fund. These two can, to advantage, mutually help each other and mutually keep the medical questions between funds and patients in equilibrium; but it will surely be to the disadvantage of both funds and insured if the functions of these two physicians are blended in one man. Only by adherence to these general principles will the social insurance laws here discussed run smoothly and only by adherence to these principles will justice be done to the medical profession.

It is obvious that the success of sickness insurance, maternity insurance, invalidity insurance and also, to a somewhat lesser degree, accident compensation, largely depends on the cooperation of the medical profession. Outside of the question of the public value or the social value of these forms of insurance, the medical profession has its own economic and professional interest at stake. Any development of these branches of social insurance must very materially affect the conditions under which a large proportion of the profession will perform its work. It is not only to the interests of the profession itself, but the social efficiency of these measures require that the work of the profession be done under dignified conditions and for a satisfactory remuneration. Effective medical work can only be done by a satisfied and prosperous profession. The interests of both the working masses and the profession, therefore, require that the provisions of the insurance laws dealing with all matters of medical aid be prepared with the active cooperation and under the careful scrutiny of the organized profession.

Recently there appeared in the *Boston Medical and Surgical Journal* a communication[22] suggesting that the vexed question of medical aid under social insurance laws could be answered by abolishing the problem, by cutting out entirely the proposal to furnish medical care as part of the insured benefit at least until we know more. It is doubtful if such a problem can be solved by refusing to meet it. It would seem that if medical benefits were not furnished under the social insurance laws, such as sickness insurance, and that cash benefits, etc., were, that while the insured would be protected against the economic effect of sickness and would be more able to pay his physician's bills, the doctors' bills under these circumstances would be no more paid than they are now and the physician's bill would be the last one paid, as it is now, or left unpaid. It would mean the further development of dispensary practice, and an increased income of the wage earner would, as little as possible, be spent in paying the doctor as long as there was a cheap dispensary to which they could turn. The development of the physician from a dispensary going out among the poor and following up the work of the dispensary in the homes of the poor would enormously increase as it is beginning rapidly to increase in New York City. There must be, even under this scheme, a medical officer of the fund appointed on a salary to judge when the patient was sick enough to receive cash benefit and when he was well enough to have these benefits cease. This must go on whether or not the individual care of the panel physician was given. There would be no control over the care of the patient and no harmony

22. Cotton, F. J.: Boston Medical and Surgical Journal.

between the fund physician and the attending physician of the patient. If the attempt was made by the funds to hire physicians to look after their clientele, it would bring all the evils that this method of performing the work has brought in Germany. It is acknowledged by all students of the subject, that these two functions should be separated, and it leaves a vicious condition of medical care when they are not so separated. It would seem that this method of avoiding the issue, if put in practice, would possess many of the disadvantages which it seeks to avoid. This scheme would improve the condition of the workmen but would injure the work and economic position of the medical profession and fails to solve the problem.

MEDICAL SERVICE UNDER SOCIAL INSURANCE LAWS

Your committee feels very strongly that the members of the medical profession are the only ones who can solve the problem of medical service under these social insurance laws. These problems must be faced by it, if the profession is to obtain the justice that is due it, if it is to protect its economic position in the community. Laymen, however just, do not understand the point of view of the profession and do not understand the peculiar problems that the professional life of a physician and surgeon brings forth. There is no question but that the intense reaction in many states against sickness insurance or any further expansion of the social insurance laws in this country is due to the injustice and cold-blooded unfairness by which physicians and their patients have been treated under the workmen's compensation laws. To work out these problems is a most difficult task. The time to work them out, however, is when the laws are molding, as now, and the time is present when the profession should study earnestly to solve the questions of medical care that will arise under the various forms of social insurance. Blind opposition, indignant repudiation, bitter denunciation of these laws is worse than useless; it leads nowhere and it leaves the profession in a position of helplessness if the rising tide of social development sweeps over them. The profession can, through its influence in the community, prevent for a time these laws being passed and it can, by a refusal to cooperate, still further retard them, but in the end the social forces that demand these laws and demand an improvement in the social existence of the great mass of the people of the nation will indignantly force a recalcitrant profession to accept that which is unjust to it and that which is to its detriment.

The profession today, in certain states, is acting the part that our school boy history showed of old King Canute sitting on the seashore bidding the rising tide to stop, and King Canute only got wet for his trouble.

Your committee has endeavored, when opportunity offered, to help mold the medical portions of suggested laws, because those members that have done it have felt it necessary that there should be something to protect the profession if these laws should pass. The profession has always stood, and been proud of its standing, as the guardian of the health of the nation, and it cannot avoid the responsibility for, nor look with indifference on any laws which may affect the public health. It is the duty of the profession to see to it that the nation suffers no harm from social laws which affect public health and sanitation. It is the duty of the profession to cooperate with the law makers that the great subjects of preventive medicine and sanitation shall be written in these laws and shall form a part of them. It is also the duty of the profession further to see that the welfare of their patients does not suffer harm in matters of health.

Wherever introduced accident insurance has materially contributed to industrial safety. Sickness and invalidity insurance have resulted in the improvement of hygienic conditions of life and work. The better treatment of the sick has improved the general health and prolonged the life of the workers. Unemployment insurance has stimulated regularization of conditions and of unemployment through organization of public employment bureaus.

The Committee on Social Insurance offers, therefore, to the House of Delegates the following resolutions:

WHEREAS, The report of the Committee on Social Insurance of the American Medical Association has shown that the world-wide movement for social insurance has made such rapid progress that it has become one of the most important branches of industrial legislation in many countries, and

WHEREAS, The growth of social insurance in this country is manifested by the wide acceptance of the principle that industrial accidents should be compensated and it is probable that this movement, as in other countries, will further demand protection of workers against the hazard of illness through sickness insurance and other social insurance legislation, and

WHEREAS, All matters affecting sanitation and the health of the community and the prevention of disease are the especial concern of the medical profession and affect the economic condition of the medical profession, be it therefore

Resolved, That the House of Delegates of the American Medical Association in the interests of both the wage-earners and the medical profession authorize its Council on Health and Public Instruction to continue to study and to make reports on the future development of social insurance legislation and to cooperate, when possible, in the molding of these laws that the health of the community may be properly safeguarded and the interests of the medical profession protected, and be it further

Resolved, That the House of Delegates instruct its Council on Health and Public Instruction to insist that such legislation shall provide for freedom of choice of physician by the insured; payment of the physician in proportion to the amount of work done; the separation of the functions of medical official supervision from the function of daily care of the sick, and adequate representation of the medical profession on the appropriate administrative bodies.

Respectfully submitted,

ALEXANDER LAMBERT, Chairman.

COMMITTEE ON WOMEN'S AND CHILDREN'S WELFARE

Council on Health and Public Instruction:

Never, since my connection with the Committe on Women and Children's Welfare, have I felt the pressure of responsibility so keenly as at the present time. Because of the vast destruction of human life throughout the warring nations, child conservation has become an economic necessity, and the health of women should be protected if for no other reason than that they may aid in the development of the children. Because of this serious situation our committee wishes to urge most earnestly the active cooperation of every member of the American Medical Association in two things: the further development of baby health conferences, and the securing of an adequate vital statistics law in each state. Both of these activities have been most splendidly kept before the public by the Children's Bureau and the General Federation, and, by cooperating with them, the Committee on Women and Children's Welfare has been able to do its most effective work in 1916-1917.

Our last year started with a much clearer understanding of what is being done in the United States toward preservation of child life than we had ever been able to have before in the history of our work. Through the efforts of the Council on Health and Public Instruction of the American Medical Association, a conference was called, last October, of representatives from all the societies interested in child welfare. This conference met in Chicago, made a comparison of work being done, and appointed a committee of six, with Miss Julia Lathrop as chairman, to map out a general program to be followed by all the societies represented. The first tangible result of the work of this meeting is to be seen in a set of fifteen panels, ten of which were prepared by the American Association for Study and Prevention of Infant Mortality, and five by the Children's Bureau. These are printed by the American Medical Association, and are exceedingly clear and forcible in text, and attractive in form. The single copies are 15 cents and the entire set $2, bringing them more nearly within the reach of those desiring them than the sets previously published, which have been often prohibitive in price, and not plentiful enough to rent.

Our cooperation with the Children's Bureau during the past years has always reacted most satisfactorily on the work of our own committee. It has been our particular function to assist the bureau this year in its plans for a nation wide baby week. To that end we have revised our pamphlet on baby health conferences and added to our series a record sheet for noncompetitive conferences, which is used and approved by the Children's Bureau. The following extract from the directions given for entrance to the baby department

of one state fair, for 1917, explains the practical use to which this record sheet is to be put.

Class No. 172. Noncompetitive Class (without Score Card):

2547—Boy 36 Months and under 48 Months.
2548—Girl 36 Months and under 48 Months.

A record sheet prepared by the Children's Bureau will be used. A full physical examination is made of each baby; a printed blank is filled out, giving the results of the examination and notes with regard to the individual needs of each baby. This record sheet is given to the mother.

In this class no attempt is made to compare the development or condition of different babies: the object of the examination is rather to center the attention of the mother on the qualities and needs of her own child, to teach in a practical way the facts with regard to the care of babies, and point out the sources of assistance in making or keeping the baby well. No treatment or prescriptions are given; where there is need for either, reference is made to the family physician or dentist, to specialists, or, where the parents can not afford private care, to clinics and hospitals.

No prizes are awarded but a ribbon will be given to each baby examined.

Perhaps the greatest new possibility for our committee in this year's work has come from our connection with the General Federation of Women's Clubs. Within that federation there is a department of public health which in its turn is divided into four divisions; one of these is child hygiene, and it has been my great opportunity, as chairman of that division, to submit a program and recommendations for the work of 1917-1918. This material appeared in the General Federation of Women's Clubs magazine for April, 1917, and will be incorporated in the handbook of the Committee on Public Health of the General Federation. Through these two avenues we are able to come in direct touch with 2,000,000 women of the United States. The program and recommendations follow:

There are only eleven states which already have an adequate vital statistics law. We recommend that these states work along lines suggested by their own state registrar; such as investigating the cause of their death rate, establishing child welfare stations, making surveys, and working toward securing a child hygiene division either under their state board of health or university extension.

For the states which do not have an adequate law we submit the following program for the first day allowed us in the club year-book. May we keep constantly in our own minds that we rank with Turkey and China in not having adequate registration laws; that it is a rebuke to our national intelligence and pride that we can only guess approximately the number of deaths and births in our country, and that no efficient infant welfare work can be done until we know where the babies are and how many there are.

BIRTH REGISTRATION

1. A spot map of localities showing results of test in birth registration (Census Bureau).

2. Devices and campaigns to awaken interest (See "Birth Registration Test," Children's Bureau, pages 4, 5, 6).

3. Why the "model bill"? (See "Why Births and Deaths Should Be Registered: American Medical Association.)

4. Cooperation with state and local health officers.

5. Relation of birth registration to infant mortality. (See Infant Mortality, 1915, Children's Bureau. See pamphlets issued by American Association for Study and Prevention of Infant Mortality.)

6. Birth registration and child labor. (See "Birth Registration Test," Federal Bureau. See "Study Course on Public Health," Program XIV, American Medical Association.)

The second day in the calendar can be devoted to the question of baby health conferences, with a view to establishing permanent local, county, and state stations or bureaus.

BABY HEALTH CONFERENCES

1. Demonstration of measuring babies: normal and subnormal types presented.

Suggestion to Committee

Experience has shown that the most effective way to make these demonstrations count is to secure two babies, one as near the normal type as possible, the other with as many remediable defects as possible. The latter can often be secured from some charitable institution. One nurse and one doctor are necessary to conduct the demonstration. Score cards should be in the hands of the audience during the demonstration.

2. Discussion of score card and anthropometric table. See: American Medical Score Cards. American Medical Anthropometric Table. Record Sheet (same as used by federal bureau). Baby Week Campaign (issued by the federal bureau).

Suggestion to Committee

If practicable, this topic should be combined with the explanations accompanying each measurement. If this is not possible, it should follow immediately. Questions and discussions should be encouraged from the audience. Under this discussion the necessity of parents having an anthropometric table can be brought home. For example, a child should, at a given age, weigh a certain number of pounds according to his height, and the circumference of his head, chest and abdomen should be proportionate; if not, the cause should be ascertained. This discussion is of utmost importance, as it is one that will lead most effectively toward the establishment of permanent conference stations.

3. Mental Development; Binet Tests above 3 years of age. Mental Tests below 3 years of age. (See: American Medical Score Card. American Medical Baby Health Conference, Pamphlet 5.)

Suggestion to Committee

This topic is given because it is the part of the measuring and scoring least understood and most criticized. Practically every normal baby will respond in varying degrees of promptness and accuracy to the tests offered; but the subnormal or mentally backward child invariably fails to respond. The test, as it now stands, is far from satisfactory in marking the fine points of difference among normal children; but it is of greatest accuracy and value in determining the subnormal child's deficiencies. Both physicians and parents have misunderstood and undervalued these mental tests.

4. Care of Mother; Rural; Town; City. (See: Prenatal Care, by Mrs. Max West, Children's Bureau. Maternal Mortality, by Dr. Grace L. Meigs, Children's Bureau Leaflet No. 1. Prenatal Care Record, by American Association for the Study and Prevention of Infant Mortality.)

Suggestion to Committee

Especial attention should be called to the condition of mothers in rural districts and in small towns where tradition keeps the mother at her usual work until the birth of child and sends her back too soon afterward. Scarcity of servant help, and ignorance of results make this condition often as threatening as in the slum districts of the city where the mother must of necessity work in factories or away from home. Many times the actual physical labor of the mother in the rural districts equals that of the much talked of slum mothers, and the results on the child are less harmful only because partly counteracted by pure air and better food.

Distinct from these two days of regular club work on child hygiene, we wish to recommend most earnestly the observance of Baby Week. If the week set apart by the Children's Bureau is not advisable in the community, another may be substituted: if a week is impossible at least *observe one day*. By all means cooperate with the federal bureau in this matter. This bureau has a baby week pamphlet which gives suggestions suitable, by modifications, to any locality.

We feel that when these two lines of work are well accomplished and the results achieved, many other things for which our department stands, such as housing conditions, food supply and public utilities in municipal and rural life, will have received material aid.

In the localities in which the foregoing programs and suggestions are difficult to follow, we recommend "An Outline for Study Course on Public Health, prepared for the use of Women's Clubs" by a joint committee from the American Medical Association, and the Home Economics Department of the General Federation of Women's Clubs. The parts of this particularly suited to a child welfare program are: Program III, Subject, "The Cost of Food"; Section B. Program IV, Subject, "The Care of Food"; Program VIII, Subject, "Control of Communicable Disease," Sections A, B and D. Program IX, Subject, "Cost of Preventable Disease." Each of these is accompanied with a good bibliography. The outline can be obtained from the American Medical Association, 535 N. Dearborn St., Chicago, Illinois.

During the past year all orders for contests and conferences have been filled by Dr. Frederick R. Green, secretary of the Council on Health and Public Instruction, from the Chicago office. From our own office we have sent sample material only.

The Central Committee, who have given us valuable and steady assistance for this year, is composed of the following members: L. Rosa H. Gantt, M.D., Spartanburg, S. C.; Samuel Jay Crumbine, M.D., Topeka, Kan.; Mary G. Haskins, M.D., Detroit; Gladys Cooper, M.D., Red Oak, Iowa; Grace L. Meigs, M.D., Washington, D. C.; Phoebe Van Voast, M.D., New York; Margaret V. Clark, M.D., Long Beach, Calif.

The Score Card Committee is as follows: Henry L. K. Shaw, Albany, N. Y.; Velura E. Powell, Red Oak, Iowa; Josephine Baker, New York; Howard Childs Carpenter, Philadelphia.

In conclusion, we wish to call especial attention to the following classes in baby health contests, as those most effective in their remediable effects, and in consequence most desirable to center on: initial examination; improvement class; and the noncompetitive class, explained before in this report.

Again may we point to the fact that conservation of child life, health, and development has never been such an insistent factor in the world's history as at the present time. The difficulties and responsibilities of our committee have been daily borne in on us with increasing urgency in the last two years, and have grown especially heavy since the declaration of war by our own country. We, therefore, wish to express our appreciation to the Council for their sympathetic and unlimited support.

Respectfully submitted.

LENNA L. MEANES, Chairman.
M. L. TURNER, Secretary.

COMMITTEE ON COOPERATION WITH THE NATIONAL EDUCATION ASSOCIATION

Council on Health and Public Instruction:

Feb. 27, 1917, the committees, appointed by the American Medical Association and the National Education Association, for the purpose of investigating sanitary conditions of rural schools and suggesting improvements, met in Kansas City, Mo. Resolutions were passed, advising the publication and circulation of the fifty charts prepared by Dr. Thomas D. Wood, and that they be printed by the American Medical Association press at Chicago. U. S. Commissioner Claxton subscribed for a large number for the government.

February 27, in the Auditorium of Kansas City, Drs. Wood, Dodson and Green, and Commissioner Claxton addressed the superintendents, and requested that they use their influence in securing a fund at the meeting of the National Education Association, in July, 1917, at Portland, for the purpose of continuing the work of the committees.

At the meeting on this date, a resolution was passed also, asking that the American Medical Association committee use its influence to secure a fund, at the meeting of the American Medical Association, in June, 1917, for the same purpose.

In Southern Colorado, an important step has been taken in the rural schools this year toward protecting the teeth and health of the schoolchildren. In the coal camps an eye, ear, nose and throat specialist has been appoinnted to examine and treat the schoolchildren of these schools. Also dentists and special nurses have been appointed and are at work among the schoolchildren of the camps, treating and repairing teeth and teaching mouth hygiene.

At these camps, visiting nurses have been appointed who devote their entire time to teaching hygiene and sanitation in the homes of the miners. This work is having a decidedly beneficial effect on the health of the community, and does much to improve the schools.

Owing to the importance and timeliness of first aid work, classes in camps and schools are being continued. Through the Extension Division of the University of Colorado, twenty-one classes in first aid have been organized, local physicians being the instructors. The American Red Cross cooperates by giving its certificates to all who pass the examination of the course.

Architecture of schoolhouses has not been lost sight of, and whenever possible the importance of properly constructed schoolhouses has been emphasized, giving the unit schoolhouse as an illustration, with its faultless lighting and ventilation. A number of schoolhouses have been built this year in Colorado on the unit plan.

During the past fall and winter I have given health and other talks, mostly illustrated with lantern slides, at Sunrise, Wyo., and the following places in Colorado: Morley, Florence, Canon City, Trinidad, Boulder (University of Colorado, School of Medicine), La Junta, Salida, Colorado Springs, Primero, Walsen, Beulah, Denver (Baby Show, Medical Society, Delphian Society, and High School, East Side), and Pueblo (Crews-Beggs D. G. Store, four lectures; Colorado Supply Company Store, Railway Y. M. C. A., Carlile School, Civic Federation Club, South Side School, Centennial School, Minnequa Congregational Church, Pueblo County Medical Society, Nathan B. Forest Literary Club, Norton Art Club, Daughters of the American Revolution, and Minnequa Hospital).

Respectfully submitted.

R. W. CORWIN, Chairman.

COMMITTEE ON CONSERVATION OF VISION

Council on Health and Public Instruction:

At the Minneapolis meeting of the American Medical Association a Conservation of Vision Committee of the Council on Health and Public Instruction was formed, and I was requested to assume the chairmanship. This I reluctantly consented to do, for I was well aware of the fact that my other duties left no unoccupied time at my disposal for the performance of Conservation of Vision work. By making many sacrifices, however, and by the expenditure of about $600 a year out of my own pocket, I have done what I could and trust it has met with your approval. The work is before you and you know about what it is. Up to Jan. 1, 1917, the American Medical Association has given $600 a year for the support of the Committee. Owing to financial reverses, this income stopped Jan. 1, 1917, and since then the support has proceeded from the Academy of Ophthalmology and Oto-Laryngology and myself. The American Medical Association has always paid for our printed matter which has, of course, been of great assistance. The American Medical Association has also furnished a box of stereopticon slides for each state for lecturing purposes.

We appointed state managers in each state, whose duty it has been to perfect a state organization and report once a year to our committee. Wherever possible, the state managers have also been made chairmen of the Conservation of Vision Committee of the various state medical societies. In this way, harmony in work has been secured. These state managers have secured the services of well-known oculists in various portions of their states, who have agreed to go and lecture in neighboring cities whenever invited. Their expenses have usually been paid by the society issuing the invitation, although many men have paid their own expenses, thus sacrificing both time and money in the enterprise. The state managers have arranged for lectures before medical societies, women's clubs, teachers' institutes, normal schools, etc., and thus far about 500,000 people have listened to these lectures. We have positive assurances that much good have followed the lectures. Among such benefits may be mentioned medical school inspection, school nurses, schools for defectives, better shop conditions, the abolition of the "shop oculist" and common towel in many factories, active work in the passage of laws for ophthalmia neonatorum, trachoma, wood alcohol, shop conditions, schoolchildren's eyes, etc. Our Committee has also been instrumental in having lectures delivered in medical schools by the professors of ophthalmology on visual conservation. While the American Medical Association published its weekly *Health Bulletin*, and sent it broadcast all over the United States for use by papers, magazines, etc., our Committee kept it constantly supplied with practical articles on the care of the eyes, avoidance of accidents, etc. We also published twenty pamphlets on subjects concerning visual conservation, that have had a large sale, and that have been gratuitously distributed to thousands of readers. These pamphlets were written by well-known ophthalmologists, and no technical language was used in any of them. We have reason to believe that they have accomplished much good.

A very important work of our Committee has been the collection of practically all the state laws in the United States concerning the eyes. This collection has been divided into seven papers and has appeared quarterly in *Ophthalmology*. The subjects have been as follows:

State Legislation Concerning Schoolchildren's eyes, etc.
State Legislation Concerning Ophthalmia Neonatorum.
State Legislation Concerning Trachoma.
State Legislation Concerning Wood Alcohol.
State Legislation Concerning Shop Conditions, etc.
State Legislation Concerning Optometry.
State Legislation Concerning the Blind.

These articles will be revised and soon will be published in book form by the American Medical Association. In this one volume can then be found practically every law in the United States on the subject of the eye. These are not the only accomplishments of our Committee, but it is enough to demonstrate the usefulness of the organization and its possibilities for the future. This Committee has become a national institution and is highly regarded wherever its work is known. Much remains to be done, however, and it is a pity that the Committee is compelled to close its labors and go out of existence, especially as it only requires about $1,500 a year to enable us to go on with the work. I am sure that the American Medical Association regrets most sincerely that owing to "lack of funds" this and other committees must cease from their beneficial labors; but under present conditions they have no alternative. I, therefore, desire to say

to the Council on Health and Public Instruction of the American Medical Association, that I regretfully retire from the work as chairman of the Committee on Conservation of Vision and do sincerely thank the Council for the assistance and sympathy it has shown the Committee in the past. I also regret that the Council is financially unable to continue its partial support of this Committee in the future, and that this organization, which has done so much for visual conservation, must unfortunately go out of existence.

Respectfully submitted.

FRANK ALLPORT, Chairman.

Report of the Council on Medical Education

Dr. Arthur Dean Bevan, Illinois, Chairman, presented the report of the Council on Medical Education, which was referred to the Reference Committee on Medical Education.

The report follows:

To the President and to the Members of the House of Delegates of the American Medical Association:

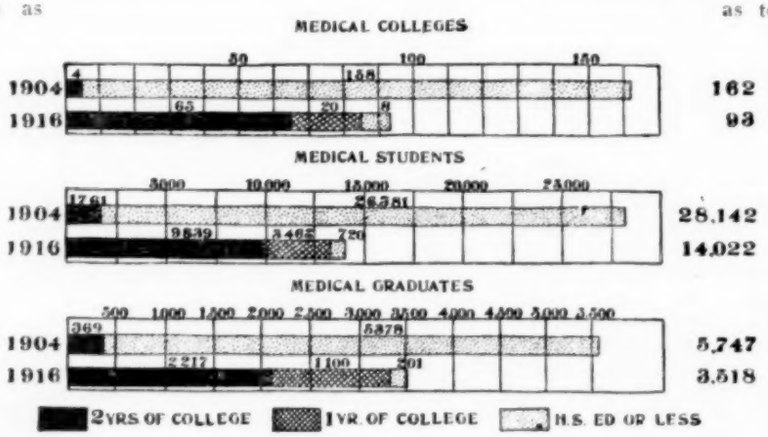
The campaign for improvement in medical education, carried on during the last fourteen years by the American Medical Association, through the Council on Medical Education, is very important, considering the present demand for medical men caused by the entry of the United States into the world war. Through the improvements which have been brought about, a large proportion of the medical schools during the last five or six years have been sending out thoroughly trained graduates such as only a few medical schools were turning out fourteen years ago, and it is the graduates of these recent years who constitute largely the material which is most available for the government medical services. In 1904 only four medical schools were requiring for admission the standards which now are being enforced, or have been adopted, by sixty-five medical colleges. Then only a few medical colleges had six or more expert, full time teachers in their laboratory departments, where now there are over seventy such colleges. Then less than a score of medical colleges had close relationship with dispensaries and hospitals, which are now possessed by over sixty medical schools. And in 1904 a still smaller number had adopted the methods of teaching by bedside and ward section clinics, which are now generally employed by a majority of the colleges. All this has resulted in a decided improvement in the character and training of medical graduates. Add to this improved training the experience gained by 75 or 80 per cent. as interns in hospitals and we can appreciate the greatly improved medical service which can now be offered to the government as compared with that available fifteen years ago. In this development the medical schools have avoided the weakness of the English and German systems of medical education. It can be stated without exaggeration, therefore, that a better all-round medical training is now being furnished by the leading medical schools of the United States than can be obtained in the medical schools of either Germany or Great Britain.

From a different viewpoint, the reorganization in medical education has largely eliminated the low grade medical colleges and correspondingly reduced the numbers of poorly trained graduates which such institutions were annually pouring into the profession. Of the forty-one medical schools which have become extinct since 1904, thirty-four, or over 80 per cent. of them, had been rated in the lower classifications. It is evident that any further reduction there may be in the number of medical colleges, students and graduates will come through the further elimination of inferior teaching institutions. While there has been a reduction in the total number of medical colleges, students and graduates, the number of high grade medical schools, with their enrolments of students and their annual output of graduates, have been greatly increased. The figures are shown in Table 1, and more graphically in the chart which follows that table.

The reorganization in medical education, with the reduced number of medical colleges, was bound to result in a reduction also in the numbers of students and graduates. Fortunately, the high grade medical colleges have passed the lowest ebb and, as shown in Table 2,[23] their output of graduates is again on the increase. The present demand for medical men for the medical services and the splendid opportunity for advancement in those positions will doubtless result in a further increase in the enrolment of medical students in high grade institutions. There should be no reduction, since the General Medical Board of the Council of National Defense has urged college students already in medical schools not to enlist, but to continue in their college and medical courses, so as to give the country the benefit of their trained, rather than their untrained, services.

TABLE 1.—QUALITY VERSUS QUANTITY
Changes for the Better in Twelve Years

Entrance Requirements	Colleges		Students		Graduates	
	1904	1916	1904	1916	1904	1916
High school education or less	156	8	26,391	720	5,378	201
One year of college work.....	0	20	0	3,463	0	1,100
Two years of college work.....	4	65	1,761	9,839	369	2,217
Totals.....	162	93	28,142	14,022	5,747	3,518
Percentage with higher requirements.....	2.5	91.4	6.3	94.9	6.4	94.3



MEDICAL COLLEGES AND THE WAR

The entry of the United States in the European war has led to a consideration of procedures which may be necessary on the part of medical colleges to meet the demand for medical officers. Early in April medical colleges were urged to graduate before the usual time —or to grant certificates showing that graduation at the end of the term was quite probable—students who had secured a general average of 85 per cent. or more during the four year medical course and who should succeed in gaining admission to the Naval Reserve Force. These students were to be assigned to active service at once, for instruction and training, with the view of being later examined for appointment as assistant surgeons in the United States Navy. Reports received from thirty-seven state licensing boards were unanimous in the statement that such graduates would not be handicapped when they should later come up for license, since the military medical training would be considered as an equivalent of the training which otherwise would have been received in the medical school. Such graduates when applying for a license will be required to show documentary evidence of their having been in the government medical services.

The demand for physicians at first appeared to be so urgent as to require medical schools to adopt continuous sessions

23. See table, THE JOURNAL A. M. A., April 14, 1917, p. 1127.

and omit the usual summer vacation, at least for the senior and junior classes, and it appears that several colleges had made arrangements to do so. Fortunately, more careful consideration by the General Medical Board showed that for the present at least such a measure was not imperative. The sudden effort to establish a continuous session might cause great confusion in many medical schools and might seriously interfere with the best teaching. In many colleges it would require an extensive reorganization of the medical curriculum, and in some parts of the country the hot summer months make undesirable the conducting of teaching during that season. Again, in almost all colleges there are some students who have to earn money during the summer vacation to meet their college expenses. Meanwhile, the summer months will not be lost, since they can be spent, with possibly greater advantage, in other more productive occupations. Besides the General Medical Board of the Council of National Defense, several standardizing agencies, including the Council on Medical Education, which have considered the matter are of the opinion that the emergency is not at present sufficiently acute to justify a shortening of the medical course or the lowering of educational standards, although certain readjustments in procedure may become necessary. If, however, the emergency arises, the medical schools and state boards can be depended on to do whatever the government requires.

Medical Students' Register

One of the most important and satisfactory pieces of work undertaken by the Council was the establishment, in 1910, of the medical students' register. In this work the Council has had a most gratifying cooperation from all but a few of the medical schools. Not only have the colleges furnished elaborate reports each year regarding new students admitted but also, on blanks furnished by the Council, have had each new student fill out and sign a statement regarding his educational history, showing by years where and when his preliminary education was obtained. This provides the Council with the means of checking and verifying the entrance qualifications of every student from whom such a report is obtained. This regular check on the administration of entrance requirements is preventing a relapse to careless methods on the part of certain medical schools, which would likely occur if by any chance this check were removed. Where fifteen years ago very little was known as to just what entrance requirements were being enforced by medical schools, now the Council has the means of knowing positively whether the entrance requirements of medical schools are actually and satisfactorily enforced. In no one particular have the medical schools of this country been so greatly improved as in the requirements for admission. It is not claimed that perfection has been reached, and faults may still be found, but those faults are known and are being corrected. Through the information furnished by the students' register, the Council is in position to disprove the reports which are occasionally being circulated that the higher standards of preliminary education in the South, or in other sections of the country, are "merely on paper and not enforced."

The medical students' register, meanwhile, is an important addition to the Biographical Index of the physicians of the United States, which is the basis of the American Medical Directory. Meanwhile, for the last few years, the work of the Biographical Index and the Directory has been conducted under the supervision of the secretary of the Council on Medical Education.

The Hospital Intern Year

The ideal standard of medical education which was suggested by the Council on Medical Education in 1905 consisted of (a) a four-year high school course; (b) a year devoted to college courses in physics, chemistry and biology; (c) a four-year medical course, and (d) a year as an intern in a hospital. We are pleased to report that this standard is no longer merely ideal, but has been generally adopted, with the exception of the fifth year as an intern in a hospital. At present hospitals are not in sufficiently close relationship with medical schools to allow the latter to have ample supervision of the intern's work. Again, the investigation and standardization of hospitals can at present be best done by the licensing boards, under the authority granted by the state. It appears inadvisable, therefore, to require this intern year as an essential for the M.D. degree, but rather to have the student secure it after graduation from the medical school, as an added qualification for the license. In fact, an internship as a prerequisite for the license has already been adopted in six states. It became effective in Pennsylvania in 1914, in New Jersey in 1916, and will become effective in North Dakota and Rhode Island in 1918, in Illinois in 1921 and in Michigan in 1922.

Revised List of Approved Hospitals

A revised list of hospitals deemed in position to furnish acceptable internships for medical graduates has been published during the year. This revision was based on reports received from the advisory committees on hospitals in the various states. In this revision, a few unworthy hospitals, which were contained in the first list, were excluded and a much larger number of worthy institutions were added. The list now includes 519 general hospitals, providing 2,709 internships; 57 state hospitals, providing 303 internships, and 111 special hospitals, providing 328 internships. Altogether there are 687 hospitals, which provide internships for 3,340 medical graduates. There are doubtless other institutions which are worthy of being included on the list, but which are omitted because repeated requests have failed to secure the necessary information in regard to them. If all these could be listed, even now there would doubtless be an ample number of fairly good hospitals to provide internships for all students graduating each year in the United States.

A List of Approved Colleges

Acting on the instructions of the House of Delegates, given a year ago, the secretary of the Council has prepared a list of approved colleges of arts and sciences. That list is much needed as a guide to deans of medical colleges, secretaries of state licensing boards and others, in administering the present standards of admission to the study of medicine. It is quite evident that the Council cannot presume to be itself the judge of colleges of arts and sciences, therefore, it has depended on lists of institutions approved by such standardizing agencies as the Association of American Universities, the North Central and Southern associations of colleges and secondary schools and on lists approved by state and other prominent universities. The list compiled includes 340 colleges and universities. In the preparation of this list the Council has received valuable assistance from Dr. K. C. Babcock, formerly specialist in higher education of the United States Bureau of Education, now dean of the College of Liberal Arts and Sciences of the University of Illinois, and Dr. Theodore Hough, dean of the Department of Medicine of the University of Virginia. Last February these gentlemen and Prof. George Gailey Chambers, director of admissions of the University of Pennsylvania, representing the Association of American Universities; Dr. W. F. R. Phillips, professor of anatomy of the Medical College of the State of South Carolina, representing the Association of American Medical Colleges, and Dr. N. P. Colwell, the secretary of the Council, were appointed as a special committee to further develop this list of approved colleges.

This committee also has in charge the preparation of a suggestive schedule of subjects to be included in the two years of college work which, after Jan. 1, 1918, is to be the minimum standard for admission to be required of all medical schools listed in Class A. The object of this suggestive schedule is to develop a greater uniformity in the collegiate courses preliminary to medicine.

Economizing Time in Preliminary Education

A careful analysis of the length of time required to obtain a medical education in this country shows that, with their hospital intern year added, medical students complete their medical training, on the average, at the age, approximately, of 28 years. From this it is evident that something is seriously wrong with our scheme of American education and that a reorganization must be effected that will reduce

the age of graduation from medical and other professional schools by at least two years. With the purpose of pointing out these facts to the medical profession and to the educators of the country our conference last February was largely devoted to this problem. Articles were presented to Hon. P. P. Claxton, United States Commissioner of Education; President Harry Pratt Judson and Prof. C. H. Judd of the University of Chicago, and others who have devoted particular study to this problem.

Several methods by which a saving of the student's time might be brought about were advanced. One was through the development of a so-called junior high school, to extend through what are at present the seventh and eighth grades of the elementary school and the first year of the high school. This would be followed by a so-called senior high school, covering what are at present the last three years of the high school course. It is planned, however, that the curriculum for the elementary and high schools be so rearranged as to cover not only the courses now given in the elementary and high schools but also the subjects contained in the first two years of the regular college course.

According to Professor Judd, whose opinions appeared to coincide with those of other speakers, the seventh and eighth grades of the public schools need to be completely remodeled, and he hopes that this can be brought about through the organization of the junior high school and the rearrangement of the curriculum so that it will include many of the subjects heretofore taught in the regular high school course. Says Professor Judd:

> We are working over the algebra which used to be the exclusive property of the high school and getting it down to the seventh or eighth grade. . . . Geometry has been taught in the latter part of the high school course. We are trying in the seventh and eighth grades to find out how much of geometry belongs elsewhere. We are discovering by a study of pupils that foreign languages can be learned in the elementary school.

That these changes are reasonable is readily understood from the following statement by Professor Judd regarding American public Schools:

> The number of days of the school year in all public schools is now enormously greater than it was when the present organization of an eight-year elementary school and a four-year high school was adopted. In the middle of the last century schools were held for a few weeks in the middle of the winter when the children were not otherwise engaged in home occupations. A school which was in session four months was unusually long. Today, the better systems hold sessions for nine months. As a result, the courses of study can be correspondingly enriched. While the elementary school of 1860 might legitimately devote itself to the three R's, and the high school might legitimately be satisfied with a few elementary courses in science and letters, the schools of 1917 with their longer terms cannot be content to teach such meager courses.
>
> Again, the high school of today has taken over many of the courses of the college of a generation ago. This is not merely a matter of the course of study; it is also a matter of social opportunity. The cities of this country are now providing free of cost to every student the facilities which formerly were provided by endowment at colleges. Many cities now provide higher training in institutions explicitly classified as junior colleges. This movement is far advanced in California and is under way in Kansas City, Mo., Chicago, Detroit, Grand Rapids, Mich., Joliet, Ill., and other cities.

In Professor Judd's opinion the organization of the junior high school is the most important educational movement that has taken place in America in the last century. He says (italics ours):

> It means a complete reorganization of these two schools, the elementary and secondary, and by means of the junior high school, there will be a welding together of the schools which will result in economy and increased efficiency. I venture to prophesy that *we shall ultimately come to a six years elementary school followed by a three-year junior high school, and this followed in turn by a three-year senior high school. We shall complete the essentials of elementary education at the end of six years. We shall complete the training that is now ordinarily given in a high school and in the first two years of college in the next six years.* This is a feasible program, parts of which are now at hand and on exhibition in a good many schools in this country. Kansas City, Mo., has had a seven year elementary school for a long time. We tried the experiment under rigorous conditions of scientific study in our elementary school in the University of Chicago. Many centers that could be mentioned are carrying down the secondary school work to the seventh and eighth grades and saving one year.

Such a reorganization would bring the high schools of this country on a par with those of the various countries of Europe.

Apparently, however, those seeking to bring about these reforms in education are having a difficult time and it is evident that the medical profession should exert all the influence it can in support of the changes suggested. To again quote Professor Judd:

> These changes are being tried out, but progress is slow. What we need is the moral support and cooperation of intelligent people. As soon as some school puts algebra, geometry and Latin down in the seventh grade, there will be a medical certificate issued by the family physician of some pupil to the effect that the child is being overworked. When the members of an institution, perfectly intelligent and conscious of what they are doing, go to a perfectly intelligent constituency and point out that the seventh and eighth grades need more studies there will be fifteen mothers, if not fifty, who will say it is not so; that the educators are wrong in wanting to give children of this generation an education which differs from that of a generation ago.

When asked what the medical profession could do in furthering these needed reforms in education, Professor Judd replied:

> A number of organizations are devoting themselves to this problem. The National Education Association has a committee known as the Committee on Economy of Time, supported by committees of various organizations, one of which is the Association of American Universities. These committees need to be brought to work in harmony. What we need is the machinery of standardization. Your secretary, Dr. Colwell, has cooperated efficiently with the North Central Association of Colleges and Secondary Schools in the work of standardizing colleges and that cooperation might help also in the organization of the junior high school and of high schools in general. Therefore, my suggestion is that the Council have a committee to cooperate with the existing organizations that are working for the economy of time in education.

It is the purpose of the Council to present this urgent problem to the colleges and universities of the country and attempt to initiate a propaganda for such a reorganization as will shorten by at least two years the time now required to secure a complete medical education. We believe this can be accomplished by the right sort of readjustment of the work of the primary schools, high schools and colleges, without diminishing in any way the thoroughness of preparation.

Another method suggested for saving time was to make provision so that medical students who were physically able to do so could continue their work throughout part or all of the summer months, such as has been done since 1899 by Rush Medical College, in its quarter system. Meanwhile, we learn that the quarter system has recently been adopted by the Medical School of Leland Stanford Junior University.

Higher Degrees in Medicine

In the development of graduate medical instruction in this country a question has arisen in regard to degrees for the satisfactory completion of courses in such work. While it was believed that suitable degrees should be provided so as to recognize graduate courses, at the same time, so far as possible, a multiplicity of degrees was to be avoided. After a discussion of the subject at the February conference, the following special committee was appointed to make an investigation and to report further on this subject at the next conference:

> Dr. Horace D. Arnold, Boston, chairman; Dr. N. P. Colwell, Chicago, secretary; Dr. Louis B. Wilson, Rochester, Minn.; Dr. Isadore Dyer, New Orleans; Dr. John M. Dodson, Chicago; Dr. Alfred Eycleshymer, Chicago; Dr. William Pepper, Philadelphia; Dr. Victor C. Vaughan, Ann Arbor, Mich.; Dr. J. M. T. Finney, Baltimore; Dr. Edward Jackson, Denver, and Dr. James Ewing, New York.

Medical Curriculum

In 1909, at the fifth annual conference, a special committee of one hundred prominent medical educators, after a year of special study of the subject, brought in a report on a "Model Medical Curriculum." This has had a beneficial effect on medical education in the United States. At the eleventh annual conference in 1915 another special committee brought in a report including suggestions for the reorganization of clinical teaching. This may be considered as a supplement to the report on a model medical curriculum, and it deals with important changes needed in the methods of teaching in the clinical departments of the medical school.

The time has now come when a new suggestive schedule of the subject content of the medical curriculum and the number of hours to be devoted to each subject should be prepared. It is hoped that a greater degree of uniformity,

of curriculums may result, especially in the subjects of the lower classes, so as to permit of a more free migration of medical students. A special committee to prepare a report which shall include suggestions in regard to the changes desired has been appointed, as follows:

Dr. F. S. Lee, Dalton professor of physiology, Columbia University College of Physicians and Surgeons, chairman; Dr. Charles R. Bardeen, dean and professor of anatomy of the University of Wisconsin Medical School; Dr. Reid Hunt, professor of pharmacology, Harvard University Medical School; Dr. Theodore C. Janeway, professor of medicine, Johns Hopkins University Medical Department, and Dr. William G. MacCallum, professor of pathology, Columbia University College of Physicians and Surgeons.

Relations with Canada

A year ago we reported that the rules regulating the practice of medicine in two Canadian provinces—Ontario and Quebec—contained clauses discriminating against medical colleges in the United States. Correspondence with the licensing board of Ontario, and with prominent physicians of that province, has resulted in eliminating the discriminatory clause. With Quebec, however, no change was made and the discriminatory clause still remains. Meanwhile, reports have been received stating that the better schools of Canada are planning to require another year of work devoted to the premedical branches, whereby the requirements of those colleges will be on a par with the requirements for admission to the leading medical schools of the United States. The Faculty of Medicine of the Western University of London, Ont., also has adopted the requirement of two years of premedical college work to take effect after Jan. 1, 1918.

State Board Statistics

In The Journal of April 14, 1917, was published the Council's annual presentation of statistics based on examinations conducted by state medical licensing boards. The statistics, which are based on examinations conducted during 1916, show a decided progress in the licensing of physicians in this country in the last thirteen years, which is briefly set forth in Table 3.[24] The most marked progress was in connection with the adoption of higher standards of preliminary education, thirty-six states now requiring one or more years of collegiate work, and twenty-one of these requiring the two-year standard. The next largest increase is in the refusal of state boards to recognize graduates of low-grade medical colleges. There are now thirty-nine states in which the diplomas granted by certain medical colleges are not recognized as an acceptable qualification for admission to the licensing examination. The facts are set forth in Table 4.[25] It is worthy of note that there are eighteen colleges the diplomas from which are not fully recognized in twenty or more states. The facts set forth in this table are based on official reports received from the state licensing board. On the other hand, it is seen that there are ten states in which the boards do not have, or are not using, the authority to refuse recognition of a medical college, no matter how inferior or undeserving it may be. It is evident (see Table 5) that these states are bound to be the dumping ground for the output of low-grade colleges which are rejected by other states.

Character of Applicants Licensed

Table 5, which was not published with the other statistics, is of special interest, since it shows for each state the character of the candidates licensed during 1916. Note that, of the 5,394 candidates licensed, the classification of the colleges from which they graduated is known for 3,877. There were 164 licensed (miscellaneous) who graduated from colleges which became extinct, or which merged with other colleges, before 1907, when the first classification of medical colleges was prepared; 82 were graduates of foreign medical colleges and 1,271 were licensed without examination by the endorsement of licenses (reciprocity) in other states. Of the 3,877 coming from colleges of known classification, 3,077, or 79.3 per cent., graduated from Class A medical colleges. Note that in Michigan, New Hampshire, Rhode Island and Virginia all candidates from colleges of known classification came from Class A medical schools. In all but a few states, it is noteworthy that the greater number of those licensed are from Class A institutions. The contrary is true, however, in several states. It will be seen that the largest number of graduates from Class C colleges were licensed in Missouri, Arkansas, California and Illinois. In Illinois 249 graduates of Class B colleges were licensed and more graduates of Class B and Class C colleges were licensed than graduates of Class A medical schools. The same is true in Arkansas, California and Missouri. It is evident, therefore, that in the states just named there is need of more efficient methods in the licensing of physicians. Illinois still has the darkest record in connection with the licensing of physicians. We are pleased to report, however, that great improvements are in sight through the enacting in Illinois of the new consolidation law, which, it is hoped, will place the licensing of physicians on a strictly educational basis.

TABLE 5.—CHARACTER OF PHYSICIANS LICENSED IN 1916

States	Graduates of Medical Colleges in Class A	Class B	Class C	Misc. Colleges	Foreign Colleges	Reciprocity Licenses	Totals Licensed
Alabama	46	4	0	5	0	0	55
Alaska	9	0	0	1	1	0	11
Arizona	18	4	1	4	6	0	33
Arkansas	15	22	24	6	0	28	95
California	81	40	15	3	7	156	302
Colorado	22	1	2	0	0	61	86
Connecticut	32	2	0	4	3	6	47
Delaware	11	2	0	0	0	6	19
Dist. of Columbia	27	1	1	1	3	11	44
Florida	48	8	0	9	3	0	68
Georgia	122	9	1	1	0	19	152
Idaho	17	2	1	8	1	4	33
Illinois	252	249	11	2	3	39	556
Indiana	42	3	0	1	3	27	76
Iowa	67	7	1	5	2	21	103
Kansas	24	1	7	0	0	63	95
Kentucky	50	13	0	3	0	6	72
Louisiana	64	3	0	1	0	9	77
Maine	20	1	0	2	2	6	31
Maryland	87	1	0	5	3	24	120
Massachusetts	134	5	8	11	8	0	166
Michigan	131	0	0	0	4	89	224
Minnesota	52	1	0	1	2	45	101
Mississippi	43	2	0	3	0	10	58
Missouri	72	18	57	14	0	51	212
Montana	20	7	1	10	0	0	38
Nebraska	45	4	3	0	0	18	70
Nevada	6	1	1	0	2	19	29
New Hampshire	10	0	0	0	0	15	25
New Jersey	62	8	0	1	1	91	163
New Mexico	1	1	0	3	0	9	14
New York	457	46	8	5	7	21	544
North Carolina	73	22	0	1	0	17	113
North Dakota	10	2	0	3	0	20	35
Ohio	154	27	0	0	1	69	251
Oklahoma	28	19	0	5	0	55	107
Oregon	26	3	3	4	2	19	57
Pennsylvania	202	20	0	10	1	0	233
Rhode Island	26	0	0	1	0	0	27
South Carolina	47	2	1	3	0	0	53
South Dakota	11	5	0	2	0	0	18
Tennessee	75	38	7	7	1	14	142
Texas	72	13	1	1	3	75	165
Utah	11	3	0	1	0	8	23
Vermont	15	1	0	0	1	6	23
Virginia	94	0	0	4	1	32	131
Washington	33	3	0	3	9	0	48
West Virginia	40	12	0	6	0	32	90
Wisconsin	64	6	0	1	1	55	127
Wyoming	9	4	0	3	1	15	32
Totals	3,077	646	154	164	82	1,271	5,394
Percentage of all licensed	57.0	12.0	2.9	3.0	1.5	23.6	100.0

Regular Work Conducted by the Council

The various regular lines of work now being conducted by the Council on Medical Education are as follows:

(a) Conducting, during the first week of February each year, a conference on medical education and medical licensure, where problems of interest to medical schools and to state licensing boards are brought up for discussion. The report of this conference is published in the American Medical Association Bulletin about March 1 each year. This conference has grown from a small beginning until in 1916, 329 delegates were present.

(b) An annual presentation of statistics based on examinations conducted by state licensing boards during the preceding

24. See Table M, The Journal A. M. A., April 14, 1917, p. 1120.
25. See Table D, The Journal A. M. A., April 14, 1917, p. 1112.

year. Reports are obtained throughout the year shortly after each examination is held. The statistics are published about the second week of April each year.

(c) The revision and publication of a book of "Laws and Board Rulings Regulating the Practice of Medicine in the United States." This book also contains the latest available information in regard to the requirements for registration in various foreign countries; a complete list of foreign medical colleges and other information in regard to medical colleges, medical education and state requirements of preliminary education.

(d) Cooperation with the Association of American Medical Colleges and with the Federation of State Medical Boards so as to further the establishing and maintenance of uniform and reasonable standards of medical education and medical licensure.

(e) Cooperation with associations of colleges and secondary schools, so as to keep medical education in close correlation with other departments of education.

(f) Collecting and publishing information in regard to medical colleges, students and graduates for the Council's annual presentation of medical college statistics. These are published about the third week of August each year.

(g) Obtaining information from medical colleges regarding new students enrolled at the beginning of each session. This information is the basis of the medical students' register.

(h) Reports obtained from state boards, from medical colleges and for the students' register furnish the information for maintaining and keeping up to date the biographical index of all physicians of the United States. This information is also utilized in correcting and bringing up to date the American Medical Directory, a new edition of which is issued every alternate year.

(i) Keeping up to date the classification of medical colleges. In justice to certain colleges and as improvements appear to warrant, reinspections are made, so that the college's rating can be changed if the conditions found justify such action.

(j) Obtaining from all available sources information in regard to the various drugless cult institutions. The most notorious of these institutions are written up and from time to time the facts in regard to them are published.

(k) Information in regard to hospitals is now being collected, so as to answer the requests for such information which come to the office of the American Medical Association. This information is also serviceable in connection with the maintaining of the list of hospitals furnishing acceptable internships.

(l) All the lines of work referred to, provide data for the *clearing house of information* in regard to medical colleges, medical education, medical licensure, drugless cult colleges, hospitals, etc., which is now being maintained by the Council. Information is now being furnished in response to a rapidly increasing volume of correspondence from those in need of such information. Requests are now being received from a rapidly increasing number of prospective medical students asking for information regarding medical colleges. Full information, including the Council's classification, has been included in a small pamphlet, so that it can be furnished readily and at small expense.

FUTURE WORK

The following special lines of endeavor are such as could be carried on by the Council with, undoubtedly, excellent results. They may need to be postponed, however, on account of the entry of the United States in the world war, but should be taken up as soon as conditions are favorable:

(a) There should be another general revision of the Council's classification of medical colleges. The standard on which the present classification is based should be strengthened and the medical schools reclassified accordingly. This should follow a reinspection of all medical schools. The reinspection would be of marked benefit not only through a reclassification of colleges, but also through the assistance to the colleges which the Council would be able to render, through oral and written suggestions.

(b) An effective work which could be carried on by the Council would be to have a representative attend and make a special study of the examinations conducted by various state licensing boards. The Council could in this way obtain better information regarding the methods of examination and information regarding effective methods employed in one state could be furnished to other states. Through this visitation the needs of each individual state could be studied and efforts could be intelligently directed toward improvement.

(c) A careful and thorough investigation should be made of all drugless cult institutions, so that first-hand information regarding them could be published. This information would be of service in dealing with the medical cult problem.

(d) There should be a further investigation of graduate schools, and information should also be collected regarding the various measures employed to take graduate courses to physicians, so that reliable information could be disseminated among those in need of such courses.

(e) The investigation of hospitals is a matter which could be carried on with advantage, to whatever extent funds for such work may be available. This is a work which may largely devolve on state licensing boards, but the American Medical Association should keep in close touch with and participate in that work, so as to develop and maintain uniform standards.

Respectfully submitted,

ARTHUR DEAN BEVAN, Chairman
JAMES W. HOLLAND
HORACE D. ARNOLD
ROBERT C. COFFEY
WILLIAM D. HAGGARD
N. P. COLWELL, Secretary.

Dr. Arthur T. McCormack, Kentucky, moved that the House take a rising vote as an indication of appreciation of the magnificent work of the Council on Medical Education and its members individually.

Seconded and unanimously carried.

Dr. Bevan stated that he did not take a vote of appreciation as a personal compliment, but as a compliment to the members of the council who had done the work.

Report of the Council on Scientific Assembly

In the absence of Dr. E. S. Judd, Minnesota, chairman, the Secretary suggested that the Report of the Council on Scientific Assembly be received as printed in the Handbook, and referred to the Reference Committee on Reports of Officers.

There being no objection to this suggestion, it was so ordered.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

Your Council on Scientific Assembly appreciates the responsibility placed on it and realizes that changes in the conduct of the Scientific Assembly should be made only after careful deliberation both on the part of the Council itself and of the House of Delegates.

NUMBER OF SECTION MEETINGS

The Council repeats and desires to emphasize what was brought out in the excellent report of the special committee on Sections and Section Work two years ago: that is, that at our annual sessions too many section meetings are held at the same time. There is no question as to this. The annual sessions of the British Medical Association are often compared with our annual sessions to the advantage or disadvantage of the one or the other, according to the point of view. The British Medical Association is charged with devoting too much time to social functions and renewing acquaintances and too little time to scientific work. We are accused—and the Council on Scientific Assembly believes this is a just criticism—of devoting too much time to scientific work and too little to social enjoyment and getting acquainted with each other.

Your Council is of the opinion that a more effective distribution of time will be presented if the Sections are limited to one meeting a day. Those men who are particularly interested in what they regard as their particular section feel it their duty to attend all the morning and afternoon meetings, any one of which is liable to be extended.

It is a strain to attend every meeting of a section.

It is possible to have too much of a good thing.

There is such a bewildering abundance in the program of the Scientific Assembly that the average man is at a loss to know what section to attend and not infrequently finally ends by not attending any. The man who is faithful to one particular section has no opportunity of attending the meetings of other sections. It would be a good thing for the ophthalmologist if he were free in the morning or the afternoon, to attend the laryngological section and it would do him no harm if he attended the Section on Practice of Medicine or the Section on Nervous and Mental Diseases, or some other; nor would it injure the laryngologist to visit the ophthalmological section or any of the others. This applies also to the internist, the surgeon, the obstetrician, the neurologist, the dermatologist, in fact to all physicians. Our Scientific Assembly ought to be so conducted that a man would not think he was neglecting the section in which he has an especial interest when he takes time to keep in touch with what is being done in other sections or to meet other physicians outside the sections.

The present division of the Scientific Assembly has developed gradually as a result of groups of men, engaged in a special line of practice, requesting the formation of separate sections for their specialties. At the present time, certain individuals and groups cannot get away from the opinion that the sections are independent organizations to which they belong by virtue of "membership" and to which they must give allegiance. They seem not to realize that there is no provision for affiliation with a section other than that a Fellow registering as in attendance at an annual meeting is privileged to "designate the section in which he wishes to be enrolled," and this is for the purpose of voting for section officers. It should be emphasized that the Scientific Assembly of the American Medical Association is an entity and that the sections are merely parts of a whole.

The Council would not be misunderstood. Allegiance to a particular section is desirable. It has been and is an important factor in developing scientific work.

The Council recommends that, as a trial measure, the ten Sections to which are assigned three units or less, shall hold but one meeting a day and that these meetings shall be assigned by the Council on Scientific Assembly so that sections covering more or less closely related subjects shall be grouped, one meeting in the morning and the other in the afternoon. For instance, the Section on Dermatology could be paired with the Section on Genito-Urinary Diseases; that is, the Section on Dermatology meeting in the morning and that on Genito-Urinary Diseases in the afternoon. Then the Section on Diseases of Children might alternate with that on Orthopedic Surgery; the Section on Practice of Medicine with that on Pharmacology and Therapeutics; the Section on Surgery, General and Abdominal, with that on Obstetrics, Gynecology and Abdominal Surgery; the Section on Ophthalmology, with that on Laryngology, Otology and Rhinology. This of course assumes that later on the sections having more than three units will ultimately decide to hold one meeting a day.

This grouping could be so arranged that the sections which meet in the morning one year would meet in the afternoon the next; so that if there be any advantage in the morning over the afternoon meeting, or vice versa, this would be equalized. The Council is of the opinion that if this plan of holding but one meeting a day is carried out by the ten sections, the remaining five will appreciate the advantage of the plan and adopt it.

Neglected Topics

A number of more or less important subjects are not discussed in the Scientific Assembly because they do not seem to fit in any of the existing sections. This, in part, at least, may account for appeals which have been made to the House of Delegates to establish a new section for this, that or the other subject. Such petitions often are recognized as just appeals but there are already too many sections. Moreover, as a rule, there is no assurance of an actual demand for the section or that the progress in the specialty asking for recognition is sufficient to warrant a separate section. By way of illustration, the Section on Hospitals is cited. It was constituted because some men felt that the subject was of sufficient importance to warrant a section. Time showed that this was not the case. There is no doubt that at intervals a meeting could be devoted with profit to discussing questions concerning hospitals and their management. The Council is convinced that many other topics now neglected should be provided for from time to time on the program of the Scientific Assembly. For instance, the technic of roentgenography; anesthetics, including mechanical devices for administration; or such timely topics as the duties of the medical corps of the federal government, the important subject of expert testimony and other relations of physicians to courts at law; life insurance examinations, and many others which might be cited should be presented occasionally. None of them require a separate section; all of them, and similar topics, are worthy of occasional discussion. If the House approves, provision should be made whereby your Council could arrange for the discussion of such subjects by allotting a unit or units to certain of them from time to time, as well as appoint officers to arrange and conduct such meetings.

By-Laws and Standing Rules

The functions of the Council are defined in the by-laws but this body is vested with no authority. If the House of Delegates desires it to be more than simply an advisory body, the Council is ready to serve the Association to the best of its ability; and submits, for the consideration of the House of Delegates, the following suggestions for the modification of the by-laws of the Association:

(*a*) That to Chapter VII, Section 7, page 20, there be added the following paragraph:

"To this Council shall be referred, unless otherwise unanimously ordered, resolutions, measures and propositions relating to the sections and section work presented to the House of Delegates before final action is taken by the House."

(*b*) That Chapter XI, Section 4, paragraph (c), page 31, have added after the word "chairman" appearing in the fourth line of the printed paragraph the words "and in accordance with rules and regulations enacted by the House of Delegates," so that this paragraph shall read:

"Secretary.—The secretary shall keep a record of the proceedings of the section in a book provided for such purpose; shall, with the cooperation of the chairman, *and in accordance with rules and regulations enacted by the House of Delegates,* arrange the program; and shall, at least thirty days before the Scientific Assembly, forward it to the Secretary of the Association for insertion in the official program; and shall perform such other duties pertaining to his office as may be provided by the by-laws of the Association or of the section."

(*c*) That Chapter XI, Section 12, page 33 be amended so as to read:

"Number of Papers on Program.—The number of papers, including addresses, on the program of any section shall not exceed six in each unit assigned to the section, by the rules and regulations enacted by the House of Delegates, provided, however, that no section may list more than thirty papers on its program."

(*d*) That Chapter XI, Section 3, page 30, be amended by substituting for the first sentence, which reads: "The election of officers of the several sections shall be the first order of business of the next preceding the final meeting of the section at each Scientific Assembly except when the section holds but one meeting," the following:

"Election of Officers.—The election of officers of the several sections shall be the first order of business of the next preceding the final meeting of the section at each Scientific Assembly, provided, however, that when a section shall hold not more than two meetings at any annual session, these officers shall be elected at the final meeting."

The Council further suggests the following standing rules for the government of the Scientific Assembly:

1. The term "unit" shall signify a single meeting of a section at an annual session.

2. Not more than six numbers shall be listed on the scientific program of any one unit, and further, no section shall list more than thirty papers (the number to which a section is limited by the by-laws of the Association) at any one annual session, distributed among all the units assigned to it.

3. The sections of the Scientific Assembly shall be limited at each annual session to the maximum number of units listed in the appended table:

Practice of Medicine	6 units
Surgery, General and Abdominal	6 units
Obstetrics, Gynecology and Abdominal Surgery	6 units
Ophthalmology	6 units
Laryngology, Otology and Rhinology	6 units
Diseases of Children	3 units
Pharmacology and Therapeutics	3 units
Pathology and Physiology	3 units
Stomatology	2 units
Nervous and Mental Diseases	3 units
Dermatology	3 units
Preventive Medicine and Public Health	3 units
Genito-Urinary Diseases	3 units
Orthopedic Surgery	3 units
Gastro-Enterology and Proctology	2 units

4. Those sections to which three or a less number of units are assigned shall hold but one meeting on each of the days of the annual session during which section meetings are held.

5. The Council on Scientific Assembly shall apportion the morning and afternoon units at each annual session to the several sections.

Respectfully submitted.

E. S. JUDD, Chairman.
ROGER S. MORRIS.
GEORGE H. SIMMONS.
J. SHELTON HORSLEY.
ALEXANDER R. CRAIG.

Report of the Committee on Red Cross Medical Work

Dr. George M. Kober, District of Columbia, chairman, presented the Report of the Committee on Red Cross Medical Work, which was referred to the Reference Committee on Reports of Officers.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

A Committee on Red Cross Medical Work was created at the request of the American Red Cross at the 1912 Session in accordance with Section 8 of Chapter VII which reads as follows:

"Sec. 8.—Committe on Red Cross Medical Work. The Committee on Red Cross Medical Work shall consist of three Fellows, one of whom shall be appointed by the President upon nomination of the Surgeon General of the Army, one upon the nomination of the Surgeon General of the Navy and the third member of the Committee, who shall be its chairman, shall be appointed by the President and nominated to the Red Cross as the representative of the Association on its Relief Board. This Committee is authorized to cooperate with the National Red Cross and shall have advisory supervision over state committees having charge of the same subject and shall be empowered to act for the Association in matters involving medical personnel in times of disaster provided that it shall expend money or contract financial obligations only as shall be authorized in writing by the Board of Trustees."

ORGANIZATION AND ACTIVITIES OF THE AMERICAN NATIONAL RED CROSS

It is not generally known that the American Red Cross was chartered by Congress not only as a relief organization in case of disaster in civil life, but also to furnish volunteer aid to the sick and wounded of armies in time of war, and for said purpose to act in accord with the military and naval authorities as a medium of communication between the people of the United States of America and their army and navy.

The President of the United States is ex-officio President of the American Red Cross and he appoints five others members of the central committee, who are at present the Secretary of State, Surgeon General of the Army, Surgeon General of the Navy, Comptroller of the Currency and the Solicitor General of the United States. The plans of the American Red Cross for war time relief service have long since been made in conjunction with the War and Navy Departments, and will be executed only in cooperation with the government.

The chief object of committees on Red Cross Medical work in every state and county of the Union, is to provide a body of representative physicians of approved qualifications, on whom the Red Cross can call to direct or participate in medical work carried on by that organization in any emergency which may arise. We have simply to recall the many disasters such as floods, earthquakes, forest fires and cyclones which have required the intervention of the Red Cross in order to appreciate the value of a permanent committee in every county to advise with the representatives of that society in handling medical and sanitary problems incident to such an occurrence.

Apart from its activity in emergency relief work the Red Cross in times of peace is also engaged in an educational campaign for the mitigation of human suffering and the saving of lives. So far it has extended this movement with excellent results to the teaching of prevention of accidents and first aid to the injured, in connection with mines, railways, lumber camps, industrial plants and bathing beaches, etc.

ACTIVITIES OF THE COMMITTEE ON RED CROSS MEDICAL SERVICE

It has been the aim of your Committee to stimulate the creation of a Committee on Red Cross medical work in every county medical society. This has involved the issue of repeated circulars. The correspondence up to 1915 being carried on direct with the county medical societies. The Reference Committee on the report of the Officers at the session of the House of Delegates in 1915 recommended that the activities of the committee be directed through the state associations rather than with county societies directly.

On July 24, 1916, Major Robert U. Patterson, M. C. U. S. A., the Secretary of the National Committee on Red Cross Medical Service, at our request recirculized through the Secretary of the State Medical Society all County Medical Societies as had not already organized a Committee on Red Cross Medical Work.

A copy of the Circular (see appendix A) was addressed to the Secretary of the respective county medical societies, inclosed in addressed and stamped envelopes and forwarded to the Secretary of the State Medical Society, so all that remained to be done was for the Secretary and President to transmit them with such indorsement as they deemed proper. This action has had the effect that since May 1, 1916, 174 additional county medical associations have been enrolled so that now 756 county societies in 49 different states are in close affiliation with the American Red Cross ready to cooperate with that body in all emergencies which may confront the nation in peace or war.

NUMBER OF COUNTY MEDICAL SOCIETIES BY STATES WHO HAVE APPOINTED COMMITTEES ON RED CROSS MEDICAL WORK

Alabama	10	Nebraska	17
Arizona	8	Nevada	1
Arkansas	20	New Hampshire	6
California	16	New Jersey	7
Colorado	11	New Mexico	8
Connecticut	6	New York	30
Delaware	1	North Carolina	11
District of Columbia	1	North Dakota	5
Florida	11	Ohio	41
Georgia	20	Oklahoma	26
Idaho	2	Oregon	5
Illinois	43	Pennsylvania	44
Indiana	48	Rhode Island	5
Iowa	37	South Carolina	11
Kansas	23	South Dakota	5
Kentucky	36	Tennessee	15
Louisiana	7	Texas	47
Maine	9	Utah	2
Maryland	2	Vermont	4
Massachusetts	15	Virginia	9
Michigan	18	Washington	9
Minnesota	11	West Virginia	9
Mississippi	17	Wisconsin	20
Missouri	38	Wyoming	1
Montana	8		
		Total	756

DUTIES SO FAR PERFORMED BY COUNTY COMMITTEES

So far some of the committees have been called on by Major Patterson, the Chief of Bureau of Medical Service of the American Red Cross, to report on the qualifications of physicians and surgeons offering to serve the Red Cross hospital units in the European War zone. The endorsements have been invaluable in the selection of men, as it is highly important that reputable men only be chosen, in order to protect the American Red Cross and the reputation of the Medical profession whom they represent abroad. Some of

the committees have been called on to act as instructors and judges in contests organized by the First Aid Department of the Red Cross for miners, lumbermen, railway service men, industrial workers, etc.

It should be understood that in case of war the "Department of Military Relief" of the American Red Cross will place all of its personnel and agencies at the disposal of the Army and Navy of this country.

MEDICO-MILITARY PREPAREDNESS

In this connection it should be stated that owing to the strained relations of this country with foreign nations the Government in the spring of 1916 appointed an Advisory Committee of prominent citizens as consultants on various industrial and economic problems. About the same time the subject of medical preparedness was more or less discussed at the Clinical Congress of Surgeons of America. In the early part of April the President of the American Medical Association, Dr. Albert Vander Veer, was asked to cooperate with the presidents of the Congress of American Physicians and Surgeons, the American Surgical Association, the Clinical Congress of Surgeons of North America and of the American College of Surgeons jointly to appoint a committee which would make a comprehensive survey of the medical resources of the country including the names of physicians available for field or home duty in time of war, with special qualifications of each and the equipment of the institutions with which these men are connected together with other data required for a mobilization of the medical resources of the country. This Committee met in Chicago for organization on April 14, 1916, and elected as Chairman, Dr. Wm. J. Mayo; as Secretary, Dr. Frank F. Simpson, and the following Executive Committee: Drs. George E. Brewer, George W. Crile, J. M. T. Finney, Robert G. Le Conte, Fred B. Lund, William J. Mayo, Franklin H. Martin, Frank F. Simpson, William S. Thayer and Albert Vander Veer. On April 28 this Committee met in Washington and made an offer of their services and those of 70,000 medical men, which they represented, to the President to assist the medical welfare of the Army and Navy.

NATIONAL COMMITTEE ON RED CROSS MEDICAL SERVICE

Col. J. R. Kean, Medical Corps of the U. S. Army,[26] the Director General of Military Relief of the American Red Cross, pointed out to the Committee at its Washington meeting "that the work proposed by it seemed to cover ground which was given to the American Red Cross by its charter and by the proclamation of the President of the United States of August 22, 1911, and proposed that this committee should work either through the Red Cross or in conjunction with it. This suggestion, after due deliberation on the part of the Committee of the associated medical societies was accepted to the extent, that an agreement was entered into that they should cooperate with the American Red Cross through its National Committee on Red Cross Medical Service, which committee should be an interlocking one with the committee of the associated medical societies, by having as members of the national committee all the members of the committee of the associated societies, which was known as the Advisory Committee of Civilian Physicians and Surgeons on Medical Preparedness."

The Red Cross on June 1, 1916, appointed a National Committee on Red Cross Medical Service composed of thirty-six representatives of the Associated Medical Societies. The following were the members appointed, the numbers after their names indicating the number of years which each member is to serve:

Bevan, Arthur D. (1)	122 S. Michigan Ave., Chicago
Billings, Frank (2)	122 S. Michigan Ave., Chicago
Binnie, John F. (3)	1334 Rialto Bldg., Kansas City, Mo.
Bloodgood, Joseph C. (1)	904 Charles St., Baltimore
Bradford, Edward H. (2)	D. Har. Med. School, Boston
Brewer, George E. (3)	16 E. 64th St., New York
Crile, George W. (1)	Osborne Bldg., Cleveland
Cushing, Harvey (2)	Peter Bent Brigham Hospital, Boston
De Schweinitz, George E. (3)	1705 Walnut St., Philadelphia
Finney, J. M. T. (1)	1300 Eutaw Place, Baltimore
Gibson, Charles L. (2)	78 E. 54th St., New York
Kober, George M. (3)	920 H St. N.W., Washington, D. C.
Lambert, Samuel W. (1)	Dean Columbia Univ. Med. School, New York
Le Comte, Robert G. (2)	1530 Locust St., Philadelphia
Lund, Fred Bates (3)	527 Beacon St., Boston
Martin, Edward (1)	1506 Locust St., Philadelphia
Martin, Franklin H. (2)	30 N. Michigan Ave., Chicago
Matas, Rudolph (3)	3523 Prytania St., New Orleans
Mayo, Charles H. (1)	Rochester, Minn
Mayo, W. J. (2)	Rochester, Minn.
Murphy, J. B.*	
Murphy, Fred T. (1)	5738 Coates Ave., St. Louis
McMurtry, Lewis S. (2)	The Atherton, Louisville, Ky.
Noble, George H. (3)	980 Peachtree St., Atlanta, Ga.
Ochsner, Albert J. (1)	2101 Sedgwick St., Chicago
Porter, Charles Allen (2)	254 Beacon St., Boston
Reed, C. A. L. (2)	Union Central Bldg., Cincinnati
Rixford, Emmet (1)	1795 California St., San Francisco
Royster, Hubert A. (2)	423 Fayetteville St., Raleigh, N. C.
Sewall, Henry (3)	Majestic Bldg., Denver
Simpson, F. F. (1)	7048 Jenkins Arcade Bldg., Pittsburgh
Strong, Richard P. (2)	120 Broadway, New York
Thayer, William S. (3)	406 Cathedral St., Baltimore
Vander Veer, Albert (1)	28 Eagle St., Albany, N. Y.
Vaughan, Victor C. (2)	221 S. State St., Ann Arbor, Mich.
Williams, J. Whitridge (3)	Dean, Johns Hopkins Med. School, Baltimore

26. See Annual Report of the American Red Cross, Dec. 13, 1916, p. 46.

* The vacancy occasioned by the death of Dr. Murphy in August, 1916, was filled by the appointment of Dr. Walter Jarvis Barlow of Los Angeles.

The ex-officio members are: The Surgeons General of the Army, Navy and Public Health Service; the President of the American Medical Association, President of the Congress of American Physicians and Surgeons, President of the American College of Surgeons, the Director General of Military Relief, the Director General of Civilian Relief, the Director of the Bureau of Medical Service, the Director of the Bureau of Naval Service, and the Chairman of the National Committee on Red Cross Nursing Service.

The regular meetings of this committee are scheduled to be held at the time of the meeting of the American Medical Association and also at the time of the Annual Meeting of the American Red Cross.

In order to secure a thorough cooperation between the National Committee on Red Cross Medical Service and the States, the American Red Cross appointed a Committee of nine in every State. The members of this Committee were chosen as follows: three by the President of the American Medical Association, three by the President of the Congress of Physicians and Surgeons and three by the President of the College of Surgeons.

RECOMMENDATIONS

While this action may not be in accord with the recommendations of the House of Delegates which directed in 1915 that activities of the "Committee on Red Cross Medical Work of the American Medical Association should be made through the State Associations instead of the county societies, directly meaning thereby Medical Associations, the facts are that this matter was beyond the control of your committee. The President of the American Medical Association committed the Association to this action, evidently for the purpose of harmonizing conflicting, but highly important patriotic activities in the line of national medical preparedness. The President of the American Medical Association moreover has also endeavored to safeguard the affiliation which should exist between the Association and the State Societies by selecting invariably the President and Secretary of the State Medical Association among the three members alloted to him. In the judgment of your committee his action should be approved by the House of Delegates, as it was doubtless the best solution of a very difficult and delicate problem.

Your Committee further recommends that hereafter all communications with County Medical Associations may be transmitted through the State Committee on Red Cross Medical Service. Heretofore we have complied strictly with the directions of the House of Delegates.

In this connection it should be remembered that just as the "Advisory Committee of Civilian Physicians and Surgeons on Medical Preparedness" is an interlocking one with the National Committee on Red Cross Medical Service, so it is intended that the State Committees should perform the dual functions on medical preparedness, and also on Red Cross Medical Service.

The Duties of the National, State and County Committees on Red Cross Medical Service are clearly defined in Appendix B.

An outline of the activities of the National Advisory Committee and of State and county committees on Medical Preparedness will be found in Appendix C.

A careful perusal of these regulations is earnestly recommended.

There are a few points not referred to in these documents which your Committee deem important to emphasize in the interest of efficiency and preparedness.

1. It is extremely desirable that all county medical societies that have not yet organized Committees on Red Cross Medical Work will do so at the earliest possible moment, so

that they may participate in the patriotic duties expected to be performed by the Medical Profession in all parts of our beloved country.

2. The experience of European countries has shown the unwisdom of medical students enlisting in line or sanitary organizations, thereby interrupting their medical education and depleting the ranks of future medical officers. A similar tendency has been noted in this country, and in order to guard against a possible shortage the Medical Board of the Council of National Defense on April 23 declared it to be the patriotic duty of even premedical students to remain under instruction until the country can avail itself of their trained services. In justice to this class of men and also the graduates of the class of 1917, who in the interest of real efficiency have been urged to complete their hospital year, their position should be clearly understood in every community and defended by the medical profession upon the ground of genuine preparedness.

3. Physicians can render a great service by advising college and high school graduates not destined for a medical career to enlist in the ambulance corps or other sanitary organizations of the American National Red Cross, or in the Hospital Corps of the United States Army and Navy. It is worthy of note that there are commissioned medical officers now in these services, who began their career as enlisted men of the hospital corps.

4. There is a distinct need for Medical Officers in the regular Army and Navy with about 1,300 vacancies to be filled. It is generally conceded that the most available class of men for Medical Officers are graduates of the classes of 1916, 1915 and 1914, since the majority have had one year and quite a large number two years of hospital experience and that they include a large percentage of unmarried men. On the other hand it should be remembered that there is a large number of medical men now on the rolls of the American Red Cross and the Officers' Reserve Corps, and many more are wanted, whose practice is liable to be dissipated, while performing a patriotic duty. In order that the families of such men and their practice may not suffer, your committee strongly recommends the methods suggested to prevent such an evil. (For details see *Journal American Medical Association,* April 14, 1917, p. 1131, and April 28, p. 1270.)

5. Your committee also recommends that a copy of this report with the action of the House of Delegates be transmitted to the State and County Medical Associations in the United States and Insular Possessions.

ADDENDUM

Since the foregoing report was submitted for printing, the mobilization of the medical forces of the American Red Cross under the leadership of director general, Col. Jefferson R. Keen, Medical Corps, U. S. Army, has made rapid progress.

Of the 38 base hospitals with a capacity of 500 beds each, and a personnel of 24 medical officers, 65 nurses and 153 sanitary corps enlisted men for each hospital, 6 are already doing duty on foreign soil with the allied troops.

In addition to the 38 base hospitals, 20 hospital units each composed of 1 director, 1 adjutant, 2 chiefs of service, 4 staff surgeons, 4 staff physicians, 1 head nurse, 20 nurses, and 3 clerks, have been organized. These hospital units are intended to supplement and assist already established military hospitals.

Of the 42 ambulance companies organized, each composed of 5 medical officers and 119 sanitary corps men, 12 are now awaiting orders for Europe and the remainder are undergoing instruction. In addition, 14 Red Cross sanitary training detachments, with a personnel of 64 each, have been organized and are now preparing for active service.

It must be a source of gratification to the American medical profession to know that the first military aid given to the Allies has been in the line of medical relief and the conservation of life.

Respectfully submitted.

George M. Kober, M.D.,
Chairman.

Henry T. Birmingham,
Colonel Medical Corps, U. S. Army.

T. W. Richards,
Surgeon, U. S. Army.

Appendix A[27]

To the Secretary, Medical Society:

Dear Sir:—The undersigned have been constituted a committee by the President of the American Medical Association to cooperate with the American Red Cross, in the matter of medical work

The committee feels that a great deal of substantial good will come to all communities by providing a body of representative physicians of approved qualifications to direct or participate in medical work carried on by the Red Cross in different localities in times of emergencies and to advise with the representatives of that society on questions of medical policy and procedure. Besides its activity in emergency relief work, the Red Cross is engaged in an educational campaign for the mitigation of human suffering and the saving of lives. So far it has extended this movement only to the teaching of prevention of accidents and first aid to the injured, but it is hoped in future that it shall include popular instruction in the prevention of disease. These medical committees are not in any way bound to this educational work of the Red Cross, but members of the committees who may be interested are invited to correspond with the First Aid Department of the Red Cross.

In the opinion of this committee, the plan may be properly considered under the following headings:

1. Object. Primarily this service is designed to meet local emergencies when conditions of disaster are such as to call for the intervention of the Red Cross. When exigencies come about in any community the Red Cross would be glad to feel that it might call on carefully selected physicians in that community to lend their aid in the medical work incident to the situation.

2. Organization. It is desired to have in every county a central committee of five physicians, two of whom shall be the President and Secretary of the County Medical Society, *ex officio.* The President of the County Medical Society shall select the other three members, preferably from the list of councilors or of the executive committee. This committee shall be designated the "Committee on Red Cross Medical Work." The names and residences of the members, immediately after organization, should be reported to the chairman of the American Medical Association Committee. In case of disaster, requiring relief action by the Red Cross, these county committees will be called on to nominate qualified medical men in their respective counties for Red Cross service. The committees will also serve in an advisory medical capacity to the Red Cross in time of disaster and in other lines of Red Cross activity as indicated in a preceding paragraph.

3. Qualifications. The certification of physicians by County Committees will be accepted as ample evidence of the physical, moral and professional qualifications of the gentlemen recommended for appointment. It may be pertinent to state that service in time of disaster may entail severe physical effort and physical fitness of appointees to perform hard work is, therefore, important.

4. Compensation. In some instances the Red Cross may require the services of physicians at a distance from their places of residence and for varying periods. Under these conditions the Red Cross will be prepared to pay traveling expenses and a moderate honorarium to be agreed on between the physicians and the National Director of the Red Cross.

It will be obvious to you that the arrangement here proposed is primarily intended to provide for emergencies which may suddenly arise in any community, or, on the other hand, may happily never occur. Thus it may be that the committee which we are inviting you to create may never be called into action, while, on the other hand, it may have occasion to perform a very great public service, especially in case of war. Your cooperation in the completion of this plan at as early a date as convenient will be appreciated.

Please address all communications bearing on the contents of this letter to the Secretary, National Committee on Red Cross Medical Service, American Red Cross, Washington, D. C.

Very respectfully,

George M. Kober, M.D.,
Chairman.

Henry T. Birmingham,
Colonel, Medical Corps, U. S. Army.

T. W. Richards,
Surgeon, U. S. Navy.

The formation of local committees in the American Medical Association, as outlined in the above circular, is most important. It is urged that every member cooperate to the fullest extent in the humane work of the American Red Cross, which the Association desires to assist through these special committees.

Rupert Blue,
President of the American Medical Association.

Resolution on Department of Health

Under the head of "new business," Dr. Arthur T. McCormack, Kentucky, offered a resolution on a department of health which was referred to the Reference Committee.

27. Appendixes B and C, Regulations of the National Committee on Red Cross Medical Service and Information Regarding the correlated activities of the Council of National Defense and the Advisory Commission, the Medical Departments of Government, and the Committee of American Physicians for Medical Preparedness, repeat material already published in The Journal, and are therefore omitted.

Care of Infants and Children During the War

Dr. H. M. McClanahan, Nebraska, delegate from the Section on Diseases of Children, presented a report as follows, which was submitted by the Executive Committee of the Section on Diseases of Children in reply to questions asked by the Council for National Defense, concerning the care of infants and children during the war. This communication was referred to the Reference Committee on Legislation and Political Action.

SYNOPSIS

The accompanying report has to do with:

1. The most efficient disposition of the pediatrist in the present crisis.
2. The importance of providing a sufficient number of trained women to meet the increasing needs of infant and child welfare.
3. The proper organization of all infant and child welfare agencies and activities.
4. Increase of rather than diminution of activities in public health and of the work of existing infant and child welfare agencies.
5. The importance of special activity on the part of agencies having to do with:
   A. Prenatal care.
   B. The problems of illegitimacy.
   C. The securing of the milk supply.
   D. The care of children between the ages of 2 and 6 (the neglected period).
   E. Child labor.
   F. Juvenile delinquency.
6. The physical examination and medical supervision of boy scouts and all children assigned to farm or garden work.
7. The importance of publicity concerning the care of the baby and the care of older children.
8. Formation of a national program.

Conditions may arise here or abroad in which men trained in pediatrics will be able to render valuable service under special commission—for example, extensive epidemics of contagious disease, appalling infant or child mortality, now or during the period of reconstruction.

Even in times of peace there are not enough pediatrists in this country to meet the problems of infancy and childhood, and the demand of the government for medical men for war service is taking pediatrists from work for which they are especially trained, work which is of greater importance to the country today than ever before. We suggest, therefore, that the teachers of pediatrics, those devoting themselves exclusively to pediatric work and those devoting their time to problems of infant and child welfare, can best serve their country by continuing to devote their energies to the solution of these problems.

Therefore, if your Council desires, the American Medical Association will submit a list of such physicians.

The conditions which tend to lessen the number of pediatrists in the country are also effective in drawing on the groups of nurses especialy trained in the care and nursing of infants and children. We recommend that every possible effort be made to prevent these especially trained groups from being called to military service.

This shortage has already begun. Even in normal times there are not enough nurses of this class to meet the demands. We therefore recommend that all pediatrists occupying teaching and hospital positions be urged to aid in the training of women who may volunteer for nursing and welfare work.

Authority should be given to some centralized organization designated by your board. Committees on public safety or other similar bodies organized in various states probably have knowledge of the individuals and organizations best fitted to direct the work in their community having to do with the problems of infancy and childhood. All the agencies interested in child welfare should be coordinated under one head and unnecessary duplication of effort obviated. Committees should work in harmony with the local and state boards of health. If the federal or state government give assistance for relief work these committees should be the agency through which the relief be given.

No class of the community feels so quickly and so seriously the neglect of health measures as do children. We therefore recommend that your Council call on all communities to see to it that there is no abatement, but, on the contrary, a decided increase of their activities along the lines of infant and child welfare. This is to apply to all public and private agencies.

A study of conditions in Europe brings out the following facts relative to infant and child welfare work, and should be particularly emphasized:

A. Prenatal Care: The large number of child-bearing women who have had to enter industry, and the high cost of living with its resulting diminished rations, have a tendency to increase infant mortality, and the children born of such mothers tend to be premature or under the normal weight. The mother's continuation in work diminishes her chances of nursing the baby and has shortened the period of lactation. Forty per cent. of the infant death rate occurs during the first month of life in this country, as has been shown by a recent report of the Children's Bureau. We therefore recommend that a definite rule regarding the employment of nursing mothers in factories be adopted and enforced. Financial assistance should be given when necessary. Factories and other industries where these women work should be required to make provision for suitable nurseries in order to facilitate breast feeding.

B. Illegitimate Infants: Should illegitimacy become such a problem in this country as it has in Europe, we recommend that the mother be given state or federal aid.

C. Importance of the Milk Supply: The experience of Europe has shown that after maternal nursing nothing is more essential to the health of infants and young children than adequate milk supply. We should not make the mistake made in Europe of allowing the milk supply to become impaired. The attention of the Department of Food Control and the Department of Agriculture should therefore be called to the necessity of preventing a milk shortage. We protest against the wholesale slaughter of milch cows.

D. Neglected Period (aged 2 to 6): Children during this period have greatly suffered in Europe on account of the increase in the number of mothers employed in industry. We deplore the breaking up of the home and recommend that special provision be made to keep the mothers with young children in the home. Where this is impossible arrangements should be made for the care of young children of mothers employed.

E. Child Labor: The breaking down of child labor laws in Europe has been so flagrant that unless immediate precautions are taken similar abuses are likely to arise in this country. There is already seen in certain communities a tendency to break down existing laws of child labor. The American Pediatric Society enters its protest against the repeal of any of the existing laws, and, on the contrary, urges their more rigid enforcement.

We recommend a plan of supervision similar to that adopted by the National Child Labor Committee in Pamphlets 276 and 277.

F. The increase of juvenile delinquency in Europe during the war has been appalling. In certain communities in England it has exceeded 50 per cent. To prevent this tendency we recommend that special endeavor be made through all existing agencies for improving the conditions of the older children (playground associations and boys' clubs, etc.).

At present there is no general or proper medical examination of boy or girl scouts to determine their physical fitness for their duties. We recommend proper medical examination prior to admission and subsequent oversight. This also applies equally to children detailed to work on farms.

Publicity should be given through all existing organizations, and when possible through the press, to infant welfare literature; especially to be recommended is *Public Health Bulletin No. 10* on the "Care of the Baby." Special effort should be made to see that the family of each enlisted man receives this and similar literature. This can best be done by the local committees.

Since innumerable organizations are distributing pamphlets and literature broadcast, some of which are good and some poor, we recommend that a central committee of pediatrists be appointed to review, standardize and approve such literature for wider distribution.

The very laudable desire of our fellow citizens to render some service to their country has led to the formation of innumerable organizations, much duplication of effort, great waste of energy and failure to attain results. This distressing state of affairs in some states is actually interfering with the work of organizations of long standing and equipped with trained workers. We recommend, therefore, that your Council cooperate with the organizations recognized as representative in the various states in attempt to establish a method of coordination and cooperation by which all of this splendid energy may be used to the best advantage. To this end we would suggest that you outline an organization and plan of procedure which may be utilized, first, as a means of gathering information on which specific needs of each community may be determined; and second, as an agency through which these needs may be met.

Insignia for Medical Students Not in Active Service

Dr. Charles F. Kuhn, Michigan, presented the following, which was referred to the Reference Committee on Reports of Officers:

One of the greatest hardships to come to the Fellow who is anxious and willing to serve is to be told he is beyond the age limit. I do not think that any physician gets beyond the age when he is ready to strike a blow for his country. The medical journals and preparedness boards have been asking our young men who are now in school or are contemplating a course of training to remain—they are in the hotbeds of enthusiasm—and so I desire to present the following resolution:

Inasmuch as THE JOURNAL of the American Medical Association, through its editorial columns, and the Board of National Defense, through its medical section, are urging all medical and premedical students to continue their studies, and since to do so will be to subject a large class of enthusiastic and patriotic young men to the possible opprobrium of "coward" and "slacker"; therefore be it

Resolved, That the Michigan State Medical Society, in special session assembled, does hereby urge on the General Medical Board of National Defense that a way be devised whereby all medical students or those about to enter medicine shall be recognized as being in their country's service, and that some insignia so designating them shall be given them; be it further

Resolved, That the secretary of the society be instructed to inform the chairman of the board, Dr. Franklin H. Martin, of the action of this society at once.

On motion, the House of Delegates adjourned until 9:30 a. m., Tuesday, June 5, 1917.

ADDENDUM

Report of the Secretary

[See page 1713; insert before last paragraph:]

Under date of May 25, 1917, your secretary received the following letter signed by E. F. Howard, secretary of the Mississippi State Medical Association:

At the recent meeting of the Mississippi State Medical Association, the following resolution was unanimously adopted by the House of Delegates:

Whereas, The American Medical Association, through its House of Delegates, has given to its Judicial Council appellate jurisdiction in matters of discipline of county society members; and

Whereas, This action is entirely contrary to democratic principles and opposed to those ideas, formerly laid down by the American Medical Association, that constitute the basic principles of our organization; therefore, be it

Resolved, That the secretary be instructed to notify the American Medical Association that the Mississippi State Medical Association will not admit its jurisdiction in this matter, and insists that the county societies alone shall judge the qualifications of their members.

Dr. Horace G. Wetherill, Colorado, moved that inasmuch as the letter read by the Secretary did not come properly before the Reference Committee on Reports of Officers, it be referred to the Judicial Council.

Seconded and carried.

Report of the Board of Trustees

[See p. 1713. Instead of Dr. William T. Councilman, Dr. Thomas McDavitt, vice chairman, presented this report.]

Report of the Council on Health and Public Instruction

[See page 1721, 1st column, line 36.]

The Council has given careful consideration to this communication, and presents to the House of Delegates the following resolutions for its consideration:

Whereas, It is the unanimous opinion of the Council on Health and Public Instruction of the American Medical Association that alcohol has no drug value, either as a stimulant, as a tonic or as a therapeutic agent, and that it has no food value; and

Whereas, Its use as a beverage or as a therapeutic agent is detrimental rather than beneficial to the individual; therefore, be it

Resolved, That the House of Delegates of the American Medical Association, at its Sixty-Eighth Annual Session, declares it is opposed to the use of alcohol by individuals either as a medicine or as a beverage; and be it further

Resolved, That its use in medicine is permissible only in the preparation and preservation of pharmaceutical products.

(To be continued)

Trachoma in Amsterdam.—Trachoma has long been prevalent at Amsterdam, and a committee was recently appointed to seek out the foci and suggest ways and means for an effectual campaign against it. The committee report shows that among 73,480 schoolchildren, 1.39 per cent. were found to have trachoma. The proportion among the 7,062 Jewish children was 8.8 per cent. while it was only 0.6 per cent. among all the others. The Jewish children who lived under better hygienic conditions, outside of the old ghetto, showed a much smaller proportion but even in them the proportion was larger than in the non-Jewish children. In the private infant schools the Jewish children showed 32.1 per cent. with trachoma while in the public infant schools the proportion was only 10.7 per cent. Four foci were found in different parts of the city, including the ghetto. The old experience that trachoma is rare among the well-to-do was confirmed by the committee's investigations. It was found further that over half of those with trachoma had never had any treatment for it. The committee recommends examination of all children at the fifth year and further examination every year of those recorded as having had trachoma. Treatment should be by experts in a special trachoma dispensary, easily accessible and open all day. The committee does not advise compulsory treatment, but merely that children recorded as having trachoma should not be admitted to school without a certificate that they had been treated. Treatment in the school building is not desirable, and it is not necessary to have special schools for the trachoma children, but in the school rooms they might have their seats together in a certain quarter of the room.

PARIS LETTER

Paris, May 17, 1917.

Death of Landouzy

Louis Landouzy, professor of the medical clinic and dean of the Faculty of Medicine of Paris, has just died at the age of 72. He was born in Rheims in 1845, and was the son and the grandson of physicians residing in Rheims, where he began his studies. He finished his training at Paris, to which city he went in 1867, and was appointed hospital physician in Paris in 1879, and assistant professor of the Faculty of Medicine the following year. He obtained the chair of therapeutics in 1893, but as soon as the first professorial chair in the clinic became vacant, he gave up instruction in therapeutics, and became, in 1901, a professor in the medical clinic. In the course of the same year he was elected dean of the Faculty of Medicine, and since that time continued to fill that office. He has been a member of the Academy of Medicine since 1894, and in 1913 was elected member of the Académie des sciences. Landouzy used a certain brusque authoritativeness, speaking and writing in a language which he was fond of seasoning with neologisms. From the beginning of his career, Landouzy was occupied chiefly with neurologic questions. In 1874 he described a type of progressive muscular atrophy, beginning with the face in infancy, and not accompanied by lesions of the marrow or the nerves. This progressive atrophic myopathy is known today as "atrophic myopathy, type Landouzy-Dejerine." Later, Landouzy directed his attention mainly to the field of tuberculosis. We owe to him notably the demonstration of the tuberculous nature of frankly acute pleurisy. We owe to him also the demonstration of the frequency and the special forms of tuberculosis in children. During the last few years he took a great part in the fight against tuberculosis, and since the beginning of the war he has never ceased to plead the cause of soldiers rejected on account of tuberculosis, claiming for them, with great energy, the benefits of obligatory assistance.

In 1899, Landouzy organized visits to the French mineral springs, which he termed "journeys for medical study." Up to 1913 he spent his vacations each year visiting twenty different mineral springs at the head of a group of French and foreign physicians. Landouzy was one of the directors of the *Presse médicale* and the *Revue de médecine*.

The War

THE NEW STATUS OF THE ARMY MEDICAL SERVICE

The secretary of war has just submitted a report to the president of the republic, in which attention is called to the fact that, in view of the development shown by the army medical service, the scope of its installations, the extent of its personnel and its equipment, it becomes necessary that it be given greater freedom of action, in order that it may continue to progress and adapt itself rapidly to the needs of the present war. It is indispensable that, while subject to the higher authority of the general staff, it may be assured of its part in the general collaboration and of the disposition of its means of action. The secretary of war also proposes to introduce a bill, modifying the rights and prerogatives of the officers of the health service; but, in the meantime, in order to take immediate action, the president of the republic has signed the decree which provides that the personnel of the health service shall occupy identically the same position as regards control and personnel which is occupied by the different branches of the armed service. The personnel of the health service shall be eligible to serve on any staff and under the same conditions as the officers of the different branches of the armed service. It will give to the general staff all the information found desirable as regards existing resources and necessary equipment in the way of personnel and supplies. It will assist in the working out of orders and will provide for their direct transmission.

RURAL CONVALESCENT HOMES FOR THE WOUNDED

The secretary of agriculture and the undersecretary of state attached to the military health service have recently submitted a communication to the prefects of the several departments and to the directors of the health service which provide for the creation of rural hospices. Experience has shown, in fact, that in a great number of cases convalescents,

who, up to the present time have been treated entirely by mechanical physiotherapy, improved more rapidly through the agency of work. Consequently, it has been decided that in all the sections of the country in which they do not exist already, rural hospices shall be created near the center for physiotherapy. These rural hospices will be installed in the towns and villages, or, better still, in the open country. They will comprise from twenty-five to 150 beds, and, from the administrative point of view, will constitute an annex of the center of physiotherapy. The measures put into execution by this communication, moreover, will have the result of placing at the disposal of the farmers a supplementary contingent of farm laborers.

RESTRICTIVE MEASURES PERTAINING TO FOOD CONTROL

The director of food control has instructed bakers, beginning with May 1, to cease the manufacture of cakes containing flour as an ingredient. He has permitted them to use rice in place of flour in the preparation of cakes. The chief cake bakers have united, and have chosen a committee to make up new recipes which require no flour. In order to make these recipes better known, they will publish a small collection of them. This will permit the bakers to continue their trade in spite of the restrictive regimen.

On the other hand, the experience with the evening meals without meat (THE JOURNAL, June 2, 1917, p. 1643), not having given the expected results, the director of food control has decided to go back to the restrictive measure which he previously introduced, which provides for two days without meat; horse meat, however, is permitted every day. In fact, a delegation of the butchers interested made a demand on the secretary of food control not to include horse meat in his decree restricting the consumption of meat. In support of their request they urged that the horses to be slaughtered, coming from the French and English armies, are in such quantities that they could not dispose of them all if restrictive measures limited the consumption of horse meat. The delegation furnished the director the following figures: In January, 1914, the abattoirs of Vaugirard at Paris slaughtered about 4,900 horses; in January, 1915, a little less than 2,000; in January, 1916, about 3,000; in January, 1917, 5,000. If the restrictions were imposed on the trade in horse meat, the delegation added, about forty horses for the two days of prohibition provided for by the decree would be lost from the standpoint of consumption, and that to no purpose.

FIELD HOSPITAL PRESENTED TO THE RUSSIAN ARMY BY FRANCE

Justin Godart, undersecretary of state for the military health service, recently presided at the presentation of a field hospital given by France to the Russian army. This sanitary equipment, of an entirely new plan, and provided with the latest types of instruments, is the outcome of a subscription taken up throughout France and the colonies (THE JOURNAL, April 7, 1917, p. 1053). It consists of fifty-two vehicles of which twenty are for the transportation of the wounded, and twenty-three are trucks for the transportation of material equipment. It comprises likewise a receiving station, a waiting room for the wounded, an examining room, a Roentgen-ray laboratory, and an operating room. The instruments were manufactured in the shops of the military health service. The personnel comprises 120 nurses and eighty-five chauffeurs. The medical personnel comprises twenty-three officers, among whom are physicians and pharmacists and administrative officers.

ACTIVITY OF THE AMERICAN FIELD SERVICE

The formal presentation of the American flags given by Clarence Mackay to the seventeen sections of the American field service recently took place in the midst of a large gathering, which included distinguished men of the American colony. At the present time the American field service already consists of seventeen sections, of which fifteen are at the front in France and two at the front in the Orient. These sections are served throughout by Americans who volunteered for service in the French army. Many of them have been serving in our ranks since the beginning of the war. At the present time it is in a position to offer each week to France a section for sanitary service composed of twenty-five men, with ambulance material and equipment, furnished entirely by Americans, together with a section for transport service composed of fifty men, for which the material equipment is furnished by the French government.

LONDON LETTER

LONDON, May 19, 1917.

The War

ARRIVAL OF UNITED STATES MEDICAL CORPS

A complete unit of the United States Medical Corps, with a personnel of over 200, including sixty-five nurses, has landed in England. It is in charge of Major H. L. Gilchrist, who was summoned from the Mexico border to take command. The men were selected from a large number of applicants who, according to Major Gilchrist, were "crazy to get here as fast as they can." On arrival of the vessel bearing the contingent, it was boarded by a British general and his staff, and the unit was paraded for his inspection. They presented a smart appearance in uniforms like those of our Australian troops. The men are principally literary and law students recruited from Harvard, the Western Reserve University, Oberlin College, Allegheny College, the University of Pittsburgh, and the Ohio State University. The nurses come from Lakeside Hospital. With the unit as director is Major G. W. Crile, Ohio. The British general addressed the members of the unit from a rostrum on the saloon deck with the Stars and Stripes on one side and the Union Jack on the other. He welcomed them on behalf of the British Army and thanked them for what they were about to do.

THE FOOD SUPPLY

In the House of Lords, the food controller, Lord Devonport, stated that the control of supplies is growing in many directions. The shortage of potatoes led to an increased demand for substitutes, such as turnips and beans, with the result of a great rise in price of these commodities. As far as possible the government is attempting to prevent the inflation of prices. Thus Lord Devonport found that beans shipped from Burma and not due to arrive for some weeks had been sold over and over again by speculators until in one case the price was in the region of $450 per ton. He sent for the importer and told him that this would not be allowed, and succeeded in taking over the original contract at a price of $385, against a market ruling price for the moment of $420. Steps are being taken further to reduce unnecessary imports, so as to reserve all the shipping available for supplies of prime necessity. He was able to make a gratifying announcement in view of the severe danger to food supplies which the submarine campaign at one time seemed to threaten: "If the call for reduction in the use of breadstuffs is responded to—and it is being responded to—and if the efforts of the submarine are not successful beyond reasonable likelihood, we shall get through as regards breadstuffs with a fairly satisfactory balance in hand until our new harvest becomes available." Since this announcement, the depredations of the submarines have decreased. As regards the supply of meat, there is little trouble. The imports are only slightly less than in the corresponding period of last year, and our home herds are as large as if not larger than at any previous period. As the meatless day has increased the consumption of cereals, it has been abolished. Turning to fats, the supply of butter, margarin and lard is better than last year. The government is now importing all cereals, barley, rye, oats flour, etc. In addition it has taken over the control of mills so as to make certain that these are supplied according to their capacity and also that the supplies may be distributed so as to meet the demands in every direction. Although, excepting potatoes, there is no shortage of food, prices are high and are now 98 per cent. greater than before the war. But if eggs are omitted from the dietary, margarin substituted for butter, and the consumption of sugar and fish reduced to one half of that prevailing before the war, the percentage can be reduced to 65. Compared with a year ago, prices show an average increase of 29 per cent.; potatoes show an increase of 65 per cent., and cheese and eggs of nearly 50 per cent.

GERMAN PHYSICIANS CONDEMNED

The following resolution has been published by the medical authorities of Scotland: "The faculties of medicine of the Scottish universities, together with the presidents and councils of the Royal College of Surgeons of Edinburgh and of the Royal Faculty of Physicians and Surgeons of Glasgow, desire to record their condemnation and detestation of the neglect and inhumanity which characterized the conduct of certain members of the Prussian medical staff to whom the

treatment of British prisoners of war was entrusted, especially in the internment camps at Wittenberg and Cardlegen during outbreaks of typhus fever which had been largely provoked by overcrowding, insufficient food, and entire absence of all sanitary measures. The facts, as stated in the recent reports of a British government committee, which are based mainly on the testimony of officers of the Royal Army Medical Corps, themselves prisoners of war, are of such a nature as to bring indelible disgrace upon the physicians concerned, and upon the German government, which remains ultimately responsible for the treatment meted out to prisoners of war. As members of a profession which has hitherto, in every quarter of the civilized world, been inaccessible to the shameful influences which make for barbarity in warfare, we are reluctantly forced to the conclusion that a spirit of gross inhumanity has not been absent from the Prussian medical service."

THE MEDICAL SERVICE IN MESOPOTAMIA

The perfection which the medical service has attained on the western front has been described from time to time in previous letters. Unfortunately in the Mesopotamia expedition the conditions were far different, a fact principally due to difficulties of transport. A great improvement has now been reported by Sir Arthur Lawley, chief commissioner in Mesopotamia of the British Red Cross. He first visited Bombay and inspected several hospitals, including one for officers in the Gwaekar of Barodahoues. He found that, in all, structure, equipment and personnel were first rate. He then sailed to the base of the Mesopotamia expedition, Basra, in a hospital ship, and inspected the arrangements made for the reception of the sick and wounded, and on arrival saw the ship loaded. Nothing was left undone that could add to their comfort. The Red Cross river launches on the Tigris had proved invaluable in the evacuation of the wounded. From the firing line to the base at Basra there was not a hospital unit afloat or ashore to which Red Cross comforts had not been issued with a generous hand. Communications of every kind by road and river have now been laid out and developed on a well thought out plan, and medical equipment has been introduced on a lavish scale. An ample water supply is assured at every camp. A new type of ferry boat (not a hospital ship) for the rapid evacuation of the wounded has been introduced and is admirably adapted to its purpose. Sir Arthur Lawley went up the river on the eve of the storming of the Sanna-i-Yet position, and was able to visit the advanced dressing stations while the first wounded were being brought in. They were carried back by Red Cross launches on the river or motor ambulances on land. The first roar of the bombardment began at 10 a. m., and the first batch of wounded were in the field ambulance at noon. The first consignment, their wounds dressed, their stomachs filled, and their cigarets alight, were down stream by 4 p. m.

THE EFFECT OF LIQUOR CONTROL ON ALCOHOLISM

The war has led to a stringent control of the liquor traffic. The hours during which saloons are open are greatly shortened, alcoholic drinks are sold in a much weakened form, and the price of the most widely used one, beer, has been trebled. The results were reviewed by the chairman of the board of control, Lord d'Aberon, at the Royal Institute of Public Health. He maintained that in the public health legislation of this country the significance of the liquor traffic as affecting the health and wellbeing of the community had been neglected. The problem had been viewed as a social one belonging to the sphere of morals rather than to medicine, with the result that the evils had continued unchecked. He advocated restrictions directed especially to limiting the conditions which lead to excessive indulgence. The two main restrictions concerned the strength of alcoholic beverages and the times during which their consumption is permitted in saloons. During the war these had been reduced for over two years and the results were now available. In 1914 the deaths from alcoholism showed a slight upward movement. In 1915 there was a slight opposite movement. The policy of restriction came into force in the second half of the year. In 1916 the decline in deaths from alcoholism was enormous, amounting to over 40 per cent. for men and nearly 50 per cent. for women, as compared with the standard of 1913. Similarly the convictions for drunkenness showed a fall of nearly 60 per cent. in the case of men and over 40 per cent. in women.

Marriages

LIEUT. WILLIAM FREDERICK WILLIAMS, M. O. R. C., U. S. Army, Cumberland, Md., to Miss Virginia Ellen Mann of Sacramento, Calif., May 22.

LIEUT. WILLIAM BYRD HUNTER, M. O. R. C., U. S. Army, Fort Bliss, Tex., to Miss Mary Olive Kinsey of El Paso, Tex., May 19.

LIEUT. DAVID NORVELL WALKER GRANT, M. C., U. S. Army, to Miss Dorothy C. Krayenbuhl, at Colon, C. Z., May 14.

LIEUT. CLIFFORD HOOD ARNOLD, M. C., Pa. N. G., Chester, Pa., to Miss Audrey Trayser Dillon of Richmond, Va., June 5.

JOHN A. ROBERTS, M.D., Waukesha, Wis., to Miss Fredericka Wehrman of Madison, Wis., in Chicago, recently.

MORGAN OTTO BARRETT, M.D., Troy, N. Y., to Miss Dorothy Julia Healy, at New Rochelle, N. Y., May 18.

EDWARD PEIRSON RICHARDSON, M.D., Boston, to Miss Clara Lee Shattuck of Brookline, Mass., May 25.

FRANK WHIPPLE SNOW, M.D., Newburyport, Mass., to Miss Rosamond Bean of Boston, May 21.

MERRICK FIEFIELD MCCARTHY, M.D., to Miss Marjorie Porter, both of Cincinnati, May 19.

CHARLES AUGUSTUS WILLIAMS, M.D., to Miss Irene Schoof, both of Doland, S. D., May 23.

PERRY GILBERT LUSH, M.D., to Miss Mayme Holpunch, both of Chicago, May 9.

EMANUEL FRIEND, M.D., to Miss Magdalene Alexander, both of Chicago, May 26.

HEMAN LAURENCE DODD, M.D., to Miss Alice Richard, both of New York, May 24.

Deaths

Francis Henry Brown, M.D., Boston; Harvard Medical School, 1861; aged 81; formerly a Fellow of the American Medical Association; a member of the Massachusetts Medical Society; once president of the Suffolk District Medical Society; a member of the American Academy of Medicine and American Public Health Association, founder, secretary and consulting surgeon of the Children's Hospital, Boston; formerly Passed Assistant Surgeon, U. S. P. H. S.; aural surgeon to the Boston City Hospital; a veteran of the Civil War, in which he served as acting assistant surgeon, U. S. Army; formerly surgeon to the Boston Dispensary and to St. Joseph's Home, and physician to St. Elizabeth's Hospital; editor of the *Boston Medical and Surgical Journal;* who was struck by a street car while crossing the street in front of his residence in Boston, May 13, died in the Boston City Hospital, two days later, from his injuries.

Thomas Charles Fitzsimmons, M.D., Fairview, Pa.; Bellevue Hospital Medical College, 1884; aged 59; a Fellow of the American Medical Association and member of the Philadelphia Psychiatric Society; medical superintendent of the State Hospital for the Insane, Fairview; formerly city physician of Scranton, Carbondale and of Fell Township; a member of the state commission to erect a state institution for the care and treatment of epileptic and feebleminded; died in the Medico-Chirurgical Hospital, Philadelphia, May 17, after a surgical operation.

William Reed Thompson, M.D., Washington, Pa.; Jefferson Medical College, 1867; aged 80; a Fellow of the American Medical Association; once president of the Washington County Medical Society; and one of the best known practitioners of Pennsylvania; one of the organizers of the Washington City Hospital; for many years a trustee of Washington and Jefferson College; died in the City Hospital, Washington, April 17, from injuries received the day before, when he was struck by an automobile while crossing a street.

David Walker, M.D., Portland, Ore.; Queen's University, Dublin, Ireland, 1856; M. R. C. S. Ireland, 1857; aged 79; surgeon of the *Aberdeen* and the last surviving member of the McClintock Expedition sent to find Sir John Franklin's party, in the Arctic in 1857; for sixteen years a surgeon in the United States Army; died at the home of his daughter in Portland, May 11, from heart disease.

Harry Lane, M.D., Washington, D. C.; Willamette University, Salem, Ore., 1876; aged 61; a member of the Oregon State Medical Association; United States senator from Oregon since 1913; formerly a practitioner of Portland; for one term superintendent of the Oregon State Insane Hospital, and twice mayor of Portland; died in a hospital in San Francisco, May 23, from cerebral hemorrhage.

Charles Keepers Bruner, M.D., Greenfield, Ind.; Rush Medical College, 1886; aged 59; a Fellow of the American Medical Association; once president of the Hancock County, Ind., Medical Society; for several years local surgeon for the Pennsylvania System and the Terre Haute, Indianapolis and Eastern Traction Company; died at his home, May 6, from heart disease.

Cora Sechrist Fletcher, M.D., Cleveland; Woman's Medical College of Pennsylvania, Philadelphia, 1896; aged 45; a specialist in the diseases of the eye and assistant ophthalmologist to the Cleveland General Hospital; a member of the staff of the Cleveland Woman's Hospital; died at her home, about May 13.

Horace Ludington, M.D., Omaha, University of Pennsylvania, Philadelphia, 1855; aged 84; major surgeon of the One Hundredth Pennsylvania Volunteer Infantry, during the Civil War; for several years connected with the Quartermaster's Department of the Army; died at his home, May 16.

Edward C. Thomas, M.D., Philadelphia; Hahnemann Medical College, Philadelphia, 1892; aged 54; died in the Presbyterian Hospital, Philadelphia, May 13, from the effects of a gunshot wound of the head, self-inflicted, it is believed with suicidal intent, while despondent on account of neuritis.

Alexander Montgomery, M.D., Eau Claire, Wis.; Illinois Medical College, Chicago, 1898; aged 54; formerly a Fellow of the American Medical Association; a member of the State Medical Society of Wisconsin; founder of the Montgomery Hospital, Eau Claire; died at his home, April 11.

Isaiah G. W. Steedman, M.D., St. Louis; Tulane University, 1859; aged 82; a member of the Missouri State Medical Association; colonel in the Confederate service during the Civil War; president of the Curtis Manufacturing Company, St. Louis; died at his home, May 15.

Jonathan R. Umstead, M.D., Quakertown, Pa.; Jefferson Medical College, 1888; aged 52; formerly a member of the Medical Society of the State of Pennsylvania; for twelve years deputy coroner of Bucks County; died at his home, May 15, from typhoid fever.

George Philip King, M.D., Lancaster, Pa.; Jefferson Medical College, 1879; aged 57; a Fellow of the American Medical Association, visiting physician to St. Joseph's Hospital, Lancaster; died at his home, May 14, from cerebral hemorrhage.

Richard Louis Stuart, M.D., Des Moines, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1874; aged 63; formerly a Fellow of the American Medical Association; a member of the Iowa State Medical Society; died at his, May 15.

Clayton E. Spire, M.D., Jordan, N. Y.; Cleveland University of Medicine and Surgery, 1897; aged 40; while driving over a grade crossing in his automobile, May 17, was struck by a New York Central train and instantly killed.

John Harvey Donnell, M.D., Tarentum, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1892; aged 54; was struck and instantly killed by a Pennsylvania train at a grade crossing in Tarentum, May 16.

Benjamin K. Thomen, M.D., Baltimore, Ohio; Miami Medical College, Cincinnati, 1871; aged 86; for half a century a practitioner of Baltimore; died at the home of his son in Columbus, Ohio, May 6, from uremia.

Robert Wirt King, Gordonville, Tenn. (license, Tennessee, 1889); aged 70; formerly a Fellow of the American Medical Association; a member of the Tennessee State Medical Association; died at his home, April 2.

William Francis Smith, M.D., Malden, Mass.; Tufts College Medical School, Boston, 1914; aged 26; formerly a Fellow of the American Medical Association; died at his home, May 15, from tuberculosis.

Alvah A. Warren, M.D., Pawtucket, R. I.; Baltimore University School of Medicine, 1907; aged 43; a member of the Rhode Island Medical Society; died at his home, March 19, from pulmonary tuberculosis.

Etienne Lartigue, M.D., Gainsville, Fla.; Baltimore Medical College, 1897; aged 46; a member of the Florida Medical Association, and special agent of the state board of health; died at his home, May 11.

Joseph Long Thistle, M.D., Washington, Pa.; Jefferson Medical College, 1886; aged 61; a trustee of Washington and Jefferson College; died in the Washington, Pa., Hospital, May 5, from peritonitis.

Clement T. Guillaume, M.D., Boonville, N. Y.; Eclectic Medical Institute, Cincinnati, 1880; aged 60; for many years a practitioner of Utica, N. Y.; died in Utica, May 10, from a nervous breakdown.

Douglass Howell Morse, M.D., Los Angeles; Johns Hopkins University, Baltimore, 1910; aged 31; a member of the Medical Society of the State of California; died in Los Angeles, May 8.

Lewis Lee, M.D., Potter Valley, Calif.; American Medical College, St. Louis, 1888; aged 60; died in the Harbor Emergency Hospital, San Francisco, April 25, from cerebral hemorrhage.

Aura Roswell Lamb, M.D., Washington, Mich.; Detroit College of Medicine and Surgery, 1888; aged 53; a specialist in ophthalmology; died at his home, April 21, from chronic asthma.

William C. Bode, M.D., Pittsburgh; University of Würzburg, Germany, 1877; aged 69; a member of the Medical Society of the State of Pennsylvania; died at his home, May 19.

J. W. Applewhite, Gustine, Tex. (registration, Texas, years of practice, 1907); aged 76; a member of the State Medical Association of Texas; died May 5, in a hospital in Temple, Tex.

Henry Clay Mitchell, M.D., Hughesville, Mo.; Missouri Medical College, St. Louis, 1898; aged 43; died in Grace Hospital, Kansas City, Mo., April 3, from lobar pneumonia.

Henry Ingle, M.D., Gainesville, Tex.; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1888; aged 80; also a dentist; a Confederate veteran; died at his home, May 5.

Aziel Henry Crouch, M.D., Mounds, Okla.; Missouri Medical College, St. Louis, 1891; aged 56; a Fellow of the American Medical Association; died at his home, February 20.

George Milton Bradfield, M.D., San Francisco; Jefferson Medical College, 1890; a member of the Medical Society of the State of California; died recently at Los Angeles.

Joseph C. Watson, M.D., Gary, Ind.; Indiana Medical College, Indianapolis, 1878; aged 57; died in a sanatorium in Rockford, Ill., May 1, from cerebral hemorrhage.

John C. Walker, M.D., Salem, Ohio; Eclectic Medical Institute, Cincinnati, 1881; aged 62; died at his home, May 16, from the effects of an overdose of morphin.

Louis Plumer Posey, M.D., Philadelphia; Hahnemann Medical College, Philadelphia, 1883; aged 54; died at his home, May 15, from organic heart disease.

Benjamin Janney Rudderow, M.D., Philadelphia; University of Pennsylvania, Philadelphia, 1874; aged 63; died at his home, May 17, from acute gastritis.

Alfred Grant Hopkins, M.D., Burlington, Ia.; College of Physicians and Surgeons, Chicago, 1890; aged 77; died at his home, May 5.

George Vader Parmelee, M.D., Salt Lake City; Homeopathic Hospital College, Cleveland, 1878; aged 62; died at his home, May 7.

Richard H. Gillen, M.D., Seattle; Jefferson Medical College, 1871; aged 70; died at his home, April 27, from cerebral hemorrhage.

M. F. Gray, Cove, Ark. (license, Ark., 1903); aged 63; for forty-two years a practitioner of medicine, died in his office, May 16.

Ezra Styles Abney, Blythewood, S. C.; a practitioner since 1870; died at his home, March 19, aged 81, from senile debility.

Michael Francis Cole, M.D., Columbus, Ohio; Homeopathic Hospital College, Cleveland, 1884; aged 60; died at his home, May 1.

John W. Hutton, M.D., Cedar Rapids, Iowa; Washington University, St. Louis, 1883; aged 61; died at his home, May 5.

William T. Matthews, M.D., Charleston, Miss.; Tulane University, New Orleans, 1887; died at his home, April 15.

Daniel B. McLean, M.D., Brumfieldville, Pa.; Jefferson Medical College, 1873; died at his home, May 15.

Correspondence

FIRST MONTH'S SERVICE, MEDICAL RESERVE CORPS

To the Editor:—It was a month ago today that I was directed to report to Capt. Joseph Casper for service as a medical reserve officer of the United States Army. It was not my first experience with government work or army details, but so many changes take place from day to day in the organization and management of every big enterprise that I found many new things to learn. Therefore, I took up the work as a regular novice and tried to learn the details as they came up and anticipate what should be done.

The first thing I learned of great value was the necessity of systematically and methodically doing the thing which must be done many times over and over and doing it in exactly the same way. The task which confronted us was examination of a large number of applicants for the Officers Reserve Corps camp of instruction which is now in progress at the Presidio in San Francisco. The work had to be done, there was a limited force to do it, and the assistants were not then so well trained to render valuable service as they now are. But everybody turned to and stood by until that portion of the task was completed. It is inspiring to work under men who are workers themselves, and about the hardest working man in our force was the officer in charge. The applicants were a fine class of men from all parts of the state and many of them from adjoining states. It was necessary to reject some of them even after they had been passed on elsewhere. This brings me to the point of saying what I have often said before in connection with examination work: that when a family physician sends his patient before a board with a letter, or a statement, he must always remember that practically all members of the board are "from Missouri."

Examination of recruits is not an arduous task. It calls simply for the application of common medical sense which every medical man should possess. There are standards which must be adhered to if the United States is to have an efficient army. For the civilian physician who expects to enter the Officers Reserve Corps it would be good practice to sit down with the head mirror and renew his acquaintance with the method of finding the membranum tympani or the turbinates of the nose, or the deviation of the septum of the nose. The lungs should be carefully gone over, and a familiarity of the sense of touch with the normal body temperature should be cultivated. A little respiratory roughness, a little extra warmth of the skin, verified by the use of a thermometer, may save the government great expense. The heart sounds should be understood and the difference between organic and functional murmurs differentiated. Hernias and relaxed inguinal rings deserve special attention. Getting down to the most important part of the body, that below the shoe tops, except that above the collar, the feet require special consideration. As the strength of the army depends on the condition of the feet of the soldiers in that army, the feet should be most carefully inspected. Let it be remembered that the shape of the normal foot is like a wedge. Almost every applicant to be examined will wear shoes from one-fourth to 1 inch too short. It is hoped that after they enter the service they will wear shoes of the proper length. If the instructions laid down in Colonel Munson's book, "The Soldier's Feet and the Military Shoe," are followed, the feet will be properly shod. It is with great personal sacrifice that this service is being rendered, but it is a work which must be done, and it appears to me that the sooner we get at it, and the sooner we do it, the quicker it will be done, and the sooner we shall become adjusted to the changed order of things.

The officers of the regular medical corps with whom I have come in contact have been most courteous, patient and obliging, and if every civilian physician who enters the service meets with the agreeable conditions which have marked my first month's service, he will look on it as a most valuable experience.

CHARLES CROSS, M.D., San Francisco.

Social Medicine, Medical Economics and Miscellany

THE DISPENSARY ON A WAR BASIS

The Use of the Volunteer Worker

CHARLES HENDEE SMITH, M.D.
NEW YORK

The dispensary problem in New York and in many other large cities is always an acute one. There are so many institutions with outpatient departments that it is never possible to get quite enough physicians to man them properly. The policy of many hospitals has tended to discourage attendance in the outpatient departments, for there has been no close connection with the ward services, no hope of advancement, and no effort to give the dispensary men an opportunity to learn more than they can teach themselves. There are too many patients for the physicians who do attend, and this has resulted in careless, hasty work in the majority of instances. The histories are usually short and incomplete, the diagnoses of the "snap" variety, and the patient receives little or no treatment worthy of the name. Only within the last few years has there been any effort to systematize dispensaries, and to approximate the kind of work done in the wards. This is true even today in only a small proportion of the dispensaries of the city.

The outbreak of the war at once made this situation more acute than ever. The physicians who work in dispensaries are mostly young men, many of whom are foot-loose and able to volunteer for military service. Some have already been called, and many more are members of the Medical Reserve Corps or various hospital units, liable for service at any moment. The war will surely increase the number of patients applying for treatment. The inevitable higher cost of living will increase the relative poverty, and the removal of large numbers of soldiers from the families of the poor will diminish the family incomes even when the soldiers are not the heads of families or sole wage earners. This all means greater congestion and consequent neglect and suffering among the sick poor of the city.

In an effort to meet this situation, a plan has been devised by the Children's Medical Division of Bellevue Hospital, and it is presented here in the hope that it may prove of use to other institutions facing a shortage of medical men.

The outpatient department of this division has been reorganized during the past year, and an effort has been made to raise the standard of work. Special classes have been formed for many conditions which lend themselves to class or group treatment. Among these may be mentioned infant feeding, heart disease, malnutrition, syphilis, enuresis, vaginitis, nephritis, tuberculosis suspects, eczema and allied conditions. Each man has devoted one day a week to the general clinic (which includes all new cases, and old cases of miscellaneous character), one day a week to the infant feeding class, and one day to one of the other special classes. By this arrangement it has been possible to free each man from routine on one of his three days, and give him time to work at a problem. This tends to continue his interest, and also makes possible some advance in the study and treatment of outpatients. By the use of printed forms of various kinds, diet lists, hygiene instructions, and follow up and cross index cards the work had already been improved and facilitated greatly. At the outbreak of the war there were eighteen physicians and two interns working in this department. This gave an average attendance of about nine physicians a day. The number of patients averages about seventy-five (running from fifty to 100), which is not an excessive proportion for each doctor. There are eight paid social service workers in the division, two or three on duty each afternoon in the outpatient department. A clerk, clinic nurse and messenger complete the regular staff. During the winter two or three volunteers have been assisting in the infant feeding room, weighing babies, taking temperatures, and helping with the follow up system.

The war took several of the men at the outset, and several more are waiting to be called. It became evident that something must be done to avoid being forced back into the old methods of hasty and careless work. The possibility of getting other physicians seemed hopeless, and there were no funds available for paying clerks. The volunteers had done such admirable work that it encouraged us to try to get more. Through the physicians working in the division several women were induced to volunteer, and they proved themselves so useful that an appeal was sent out for a large number. Through some of the early volunteers the National League for Women's Service was interested, and later the Social Service Training School of Teachers' College and the alumnae of Miss Spence's School. The event proved what we all believed must be true, that there are many women who are willing and eager to do work of this kind if it can be shown that the work is needed, and that it is a civic as well as patriotic service. Besides helping to care for the sick poor, every volunteer helps to fill the place of a physician who has gone to the army or navy. At present after about six weeks' trial, over thirty women are enrolled, and many have been turned away for lack of room, or referred to other hospitals. A few have dropped out after one or two visits, but the majority have been very regular, and several want to come on more days than they are needed. Each volunteer attends on from one to five days a week according to the time which she has available, and to the needs of the department.

The system which has been evolved is as follows: Six or eight volunteers are on duty each day, and reach the outpatient department somewhat before the hour at which the physicians are due. They start at once to take histories on new patients. By the use of form histories an untrained but intelligent woman can take a perfectly good history after a little instruction and two or three days' experience. The physician who examines the child can amend or add to the history if necessary, but this takes only a short time, as a rule. During the taking of the history the volunteers are urged to discuss with the mother the habits and hygiene of the child, and to suggest to her such matters as the importance of a proper diet, retiring early, cleanliness, fresh air, etc. The volunteer also gives out a diet list and a slip with general rules for the care of the child, and goes over them with the mother, laying stress on the points in which she has found that the child needs attention. This makes the mother feel that the volunteer is not a mere clerk, and gives the latter an interest and sense of responsibility which relieves the tedium of the history taking, and introduces a human element into the relation.

The child is then weighed, measured, and the temperature is taken, all of which can be done by any one with little experience. He is then stripped for examination, and covered with a blanket or overcoat while waiting for the physician. The volunteer is expected to be present during the examination of the child, so that she may know of the diagnosis and see anything of interest which the child presents. The physician writes the physical examination, and by the use of the printed form this takes only a moment. He then tells the mother and volunteer what should be done for the child, gives general and special advice, lays stress on the points which the volunteer has spoken about, and writes the prescription for medicine on a pad; the volunteer then writes out in full the advice given, and copies the prescription on the chart, sees that the mother understands the directions, reiterates the important ones, and tells the patient when to return. This is all time-consuming work which should be done for every patient, if he is to receive the care to which he is entitled, yet most of it must be omitted in a great many cases when the hurried physician is responsible for it all. The chart bears the name of the historian as well as that of the physician, so that the clerk may know which volunteer is interested in the patient on the return visit, and the latter thus has an opportunity to watch the progress of each patient.

Experience shows that each physician can examine and treat as many patients as can be handled by three historians, so that this plan saves about three quarters of his time. Every patient leaves the department with a fairly accurate history, a complete examination, a diet list, hygiene instructions, and with better treatment and advice than can be given by any imaginable system in which the physician would have to do all the work. The enthusiasm of the volunteers is also invaluable, because they are fresh at the work. Late hours, bad diet, tea, coffee, constipation and the other almost universal hygienic errors are all too old a story to the medical mind, yet if any child is allowed to leave a dispensary without effort to correct his faulty habits of life, that dispensary has failed in its duty to the child. We believe that this is true, no matter what the reason for which the child is brought. There are few exceptions to the rule that there is always more wrong with a child than the ailment which has attracted the mother's attention. Children brought for a "cold" are undernourished, and may have grave organic disease. Children brought for heart disease may have half a dozen other physical defects and no heart disease, to say nothing of the certainty that three or four bad habits of living can surely be discovered.

In the special classes the volunteers are also invaluable. They take histories, fill out special return visit forms for the cardiac and malnutrition classes, and assist the social workers in the general work of the classes, such as weighing children, taking temperature, etc. In the infant feeding room the volunteer in charge with one or two assistants weighs the babies, explains making of formulas, and gives demonstrations of bathing, advice about clothing, and talks on the evils of pacifiers, flies, etc. This frees the social service worker from much routine, and enables her to devote more time to real social service work. The volunteers also keep the follow up index cards, and send out postals to mothers who do not return regularly. Without some such system many of the patients will not return, and much of the work done is therefore wasted.

With modifications this plan can be adapted to nearly every class of outpatient work. The printed form history is an important factor in this plan; but nearly all histories must have certain facts on them, and these can be printed, leaving larger spaces for some other facts which perhaps vary in other classes of patients more than in the case of children. Although our appeal for help was made on account of a shortage of physicians caused by the war, we hope that we can continue this plan indefinitely. There certainly is enough work to be done, and enough interest in the work to attract and hold women of the kind who are anxious to do something to help the sick and poor. Many physicians continue in dispensary work for years from the pure human interest in it long after they have ceased to learn anything from the routine. Why should not the women of the country who have idle hours on their hands spend some of them this way?

Since the volunteer system has been started at Bellevue it has also been adopted in some of the departments at the Presbyterian and St. Luke's hospitals, and is being considered by several others. There seems to be no good reason why it should not be developed widely, and its scope increased into further aid to the social service work in the homes of the poor. Volunteers have been used in the hospitals of Boston for several years, but not in quite this way. Our experiment has been so successful that we believe it offers a great help in the solution of the dispensary problem in peace as well as in war.

253 West Seventy-Fifth Street.

Dust in Mines and Metallurgical Plants

The effects of dust on employees is dealt with in Technical Paper 153 of the Public Health Service by P. A. Surg. J. A. Watkins of the service. In a bulletin summarizing the article it is said dust may act injuriously (1) by irritant action; (2) by toxic action, and (3) by mechanical action. Dust may sometimes be both irritating and toxic. An example of irritating dust is that from flint chert or similarly siliceous rocks, the particles of which are hard and sharp, injuring, when inhaled, the delicate lining of the respiratory tract, forming fertile locations for pathogenic organisms such as those of common cold, influenza, pneumonia and tuberculosis. This type of dust is responsible for inflammatory conditions of the nose.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, July 9. Chairman, Dr. S. W. Welch, Montgomery.
ALASKA: Juneau, July 3. Sec., Dr. H. C. DeVighne, Juneau.
ARIZONA: Phoenix, July 2-3. Sec., Dr. John W. Thomas, 306 Goodrich Bldg., Phoenix.
CALIFORNIA: San Francisco, July 10. Sec., Dr. Charles B. Pinkham, 529 Forum Bldg., Sacramento.
COLORADO: Denver, July 3. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.
CONNECTICUT: Regular: New Haven, July 10-11. Sec., Dr. Charles A. Tuttle, 196 York St., New Haven.
CONNECTICUT: Eclectic: New Haven, July 10. Chairman, Dr. John W. Fyfe, Saugatuck.
CONNECTICUT: Homeopathic: New Haven, July 10. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.
DELAWARE: Dover and Wilmington, June 19-21. Sec., Dr. H. W. Briggs, 1026 Jackson St., Wilmington.
DISTRICT OF COLUMBIA: Washington, July 10. Sec., Dr. Edgar P. Copeland, The Rockingham, Washington.
FLORIDA, Regular: Palatka, June 19-20. Sec., Dr. E. W. Warren, Palatka.
ILLINOIS: Chicago, June 14-16. Sec., Dr. C. St. Clair Drake, Springfield.
INDIANA: Indianapolis, July 10-12. Sec., Dr. W. T. Gott, 84 State House, Indianapolis.
KANSAS: Topeka, June 19-21. Sec., Dr. H. A. Dykes, Lehanon.
KENTUCKY: Louisville, June 19-21. Sec., Dr. A. T. McCormack, Bowling Green.
MAINE: Augusta, July 5-6. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.
MARYLAND: Baltimore, June 19. Sec., Dr. J. McP. Scott, 137 W. Washington St., Hagerstown.
MASSACHUSETTS: Boston, July 10-12. Sec., Dr. Walter P. Bowers, Room 501, No. 1 Beacon St., Boston.
MICHIGAN: Ann Arbor, June 12-14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.
MISSISSIPPI: Jackson, June 19-20. Sec., Dr. W. S. Leathers, Oxford.
MISSOURI: St. Louis, June 18. Sec., Dr. George M. Jones, 206 Washington St., Jefferson City.
NEW HAMPSHIRE: Concord, June 25-26. Sec., Dr. W. T. Crosby, Beacon Bldg., Manchester.
NEW JERSEY: Trenton, June 19-20. Sec., Dr. Alexander MacAlister, 438 East State St., Trenton.
NEW MEXICO: Santa Fe, July 9. Sec., Dr. R. K. McClanahan, U. S. Naval Hospital, Las Animas, Colorado.
NEW YORK: Albany, Buffalo, New York and Syracuse, June 26-29. Sec., Dr. Willard J. Denno, Education Bldg., Albany.
NORTH CAROLINA: Raleigh, June 19. Sec., Dr. H. A. Royster, 423 Fayetteville St., Raleigh.
NORTH DAKOTA: Grand Forks, July 3. Sec., Dr. George M. Williamson, Grand Forks.
OHIO: Columbus, June 11-14. Sec., Dr. George H. Matson, State House, Columbus.
OKLAHOMA: Oklahoma City, July 10-11. Sec., Dr. R. V. Smith, Tulsa.
PENNSYLVANIA: Philadelphia and Pittsburgh, July 10-12. Sec., Mr. Nathan C. Schaeffer, State Capitol, Harrisburg.
RHODE ISLAND: Providence, July 5. Sec., Dr. Gardner T. Swarts, 315 State House, Providence.
SOUTH CAROLINA: Columbia, June 12. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.
SOUTH DAKOTA: Deadwood, July 10. Sec., Dr. Park B. Jenkins, Waubay.
TENNESSEE: Knoxville, Memphis and Nashville, June 15-16. Sec., Dr. A. B. De Loach, Scimitar Bldg., Memphis.
TEXAS: Austin, June 19-21. Sec., Dr. M. F. Bettencourt, Mart.
VERMONT: Burlington, July 10-12. Sec., Dr. W. Scott Nay, Underhill.
VIRGINIA: Richmond, June 19-22. Sec., Dr. J. W. Preston, 215 S. Jefferson St., Roanoke.
WASHINGTON: Seattle, July 3-5. Sec., Dr. C. N. Suttner, Walla Walla.
WEST VIRGINIA: Charleston, July 10. Sec., Dr. S. L. Jepson, Capitol Bldg., Charleston.
WISCONSIN: Milwaukee, June 26. Sec., Dr. J. M. Dodd, 220 E. 2nd St., Ashland.
WYOMING: Laramie, June 27-29. Sec., Dr. H. E. McCollum, Laramie.

Medical School in Santo Domingo

An official document from the Republic of Santo Domingo describes the educational system in that republic. It gives the courses and standards of the National University of Santo Domingo and its faculty of medicine. For admission, a degree, either in letters and science or letters and philosophy, is required, together with a certificate showing that the candidate has passed an intensive examination in physics, chemistry, botany and zoology. The medical course extends over seven years.

Iowa February Examination

Dr. G. H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, Feb. 6-8, 1917. The total number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 6, all of whom passed. Twelve candidates were licensed through reciprocity, March 15, 1917. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Bennett Medical College		(1914)	82.9
Northwestern University		(1903)	81.2
Rush Medical College		(1911) 95; (1906)	91
University of Pennsylvania		(1915)	87.2
Woman's Med. College of Pennsylvania		(1891)	88.6

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
University of Colorado		(1913)	Colorado
Northwestern University		(1910)	Illinois
Rush Medical College	(1893) Nebraska;	(1902)	Illinois
University of Illinois		(1911)	Illinois
University of Michigan Medical School		(1908)	Michigan
St. Louis College of Physicians and Surgeons		(1889)	Missouri
John A. Creighton Medical College		(1914)	Nebraska
Jefferson Medical College of Philadelphia		(1903)	Penna.
Universities of Nashville and Tennessee		(1911)	Georgia
Marquette University		(1914)	Wisconsin

Connecticut March Examination

Dr. Charles A. Tuttle, secretary of the Medical Examining Board of Connecticut, reports the written examination held at New Haven, March 13-14, 1917. The total number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 23, of whom 18 passed, and 5 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Yale University	(1914) 81.1;	(1915)	82.7
Georgetown University		(1915)	78.8
Johns Hopkins University	(1905) 86.4;	(1915) 78.2,	87.3
Cornell University		(1915)	84.4
Fordham University		(1916)	81.4
University and Bellevue Hosp. Med. Coll.	(1914) 88.8;	(1916)	95
Jefferson Medical College of Philadelphia		(1916)	77.7
Medico-Chirurgical College of Philadelphia		(1916)	84.5
University of Vermont	(1899) 76.7; (1913) 78.4, 85.5;	(1915)	79.4
		(1916)	82.6
Royal College of Physicians, Ireland		(1908)	75
	FAILED		
University of Maryland		(1916)	*
Harvard University		(1915)	72.3
University of Michigan Medical School		(1906)	69.4
Long Island College Hospital		(1916)	69.3
University of Vermont		(1910)	74.5

* Grade not given.

Minnesota January Examination

Dr. Thomas S. McDavitt, secretary of the Minnesota State Board of Medical Examiners, reports the oral, practical and written examination held at Minneapolis, Jan. 2-5, 1917. The total number of subjects examined in was 17; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 6, all of whom passed. Eleven candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Northwestern University		(1915)	88
Rush Medical College		(1913)	91
University of Illinois		(1914)	80
Marquette University		(1916)	85, 86
University of Christiana		(1892)	76

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
George Washington University		(1916)	Dist. Colum.
Chicago College of Medicine and Surgery		(1908)	Illinois
Northwestern University		(1915)	Illinois
Rush Medical College		(1914)	Illinois
State Univ. of Iowa Coll. of Medicine		(1907)	Iowa
College of Phys. and Surgs., Baltimore		(1906)	Ohio
John A. Creighton University		(1911)	Illinois
University of Nebraska	(1908)	(1916)	Nebraska
Medical College of Virginia		(1905)	Virginia
Marquette University		(1916)	Wisconsin

Arkansas Homeopathic May Examination

Dr. Scott C. Runnels, secretary of the Homeopathic State Medical Board of Arkansas, reports that one candidate was granted a reregistration license at the written examination held at Little Rock, May 9, 1917, and one candidate was licensed through reciprocity:

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Chicago Homeopathic Medical College		(1899)	Wisconsin

Book Notices

ANATOMICAL NAMES, ESPECIALLY THE BASLE NOMINA ANATOMICA ("BNA"). By Albert Chauncey Eycleshymer, B.S., Ph.D., M.D., Head of the Department of Anatomy, University of Illinois, Assisted by Daniel Martin Schoemaker, B.S., M.D., Professor of Anatomy, St. Louis University. With Biographical Sketches by Roy Lee Moodie, A.B., Ph.D., Assistaint Professor of Anatomy, University of Illinois. Cloth. Price, $4.50 net. Pp. 1744, with 28 illustrations. New York: William Wood & Co., 1917.

Anatomy, like many other branches of medical science, is in danger, according to the author, "of being submerged by its own terminology. Over 50,000 names have been given to some 5,000 structures." The purpose of this volume is to present the B N A (Basle Nomina Anatomica) with a view to having the 5,000 names of this nomenclature made official for the structures mentioned and to discard the remaining 45,000 synonyms. The book is divided into three sections. First is a general discussion of anatomic names, in which these names are classified according to the various systems of the body. This section includes a part on explanation of the nomenclature. The second section consists of a series of biographic sketches by Roy L. Moodie. It occupies approximately 175 pages and is of great interest and value. The biographic sketches are short, yet complete. Following each is the title of the particular anatomic work for which the author is particularly noted, and each sketch includes also a list of the anatomic structures with which the name of the author is connected. The third part of the book is an index of synonyms. It includes the 50,000 terms arranged in alphabetical order and thoroughly cross indexed. Certainly no anatomic laboratory or department is complete without this book.

THE ESSENTIALS OF CHEMICAL PHYSIOLOGY FOR THE USE OF STUDENTS. By W. D. Halliburton, M.D., LL.D., F.R.S., Professor of Physiology in King's College, London. Ninth Edition. Cloth. Price, $1.75. Pp. 324, with 72 illustrations. New York: Longmans, Green & Co., 1916.

The ninth edition of a student's textbook ordinarily calls for only a formal notice. This work has now reached nearly a quarter of a century of useful life. Published in 1893, its first edition contained much less practical work than the present edition and yet it was at that time considered to present the maximum of the needs of a student of physiology for the highest degree in physiology or in medicine in the United Kingdom. Notwithstanding the present greatly expanded scope of the work, it now contains the minimum of what is considered essential for an ordinary degree. It may, therefore, be said to be an index of the progress of medical education in the English speaking countries during the last quarter of a century. It is interesting to compare the early and late editions in another respect, for it is remarkable what a large amount of the new and important methods have originated on this side of the Atlantic. As compared with its immediate predecessor, this edition is princpally notable for the introduction of the urease method for estimating urea, and the Lewis-Benedict method for determining the sugar in blood. Other less important additions are the ninhydrin reaction, and the volumetric process for estimating sulphates.

INCOMPATIBILITIES IN PRESCRIPTIONS. For Students in Pharmacy and Medicine and Practicing Pharmacists and Physicians. By Edsel A. Ruddiman, Ph.M., M.D., Professor of Pharmacy and Materia Medica, Department of Pharmacy, Vanderbilt University. Fourth Edition. Cloth. Price, $2 net. Pp. 317. New York: John Wiley & Sons, 1917.

The drugs are arranged alphabetically, and the principal incompatibilities of each are indicated. Four hundred and fifty prescriptions are given, which contain examples of the principal incompatibilities likely to be encountered. In most cases explanations of these are given on separate pages, although in some cases these have been omitted, the student being expected to recognize the incompatibility. Physicians who prescribe complex mixtures will be able to guard against incompatibilities by reference to this book. The general use of proprietary rather than scientific names for chemical substances is not for the best interest of scientific medicine in a book of this character.

Medicolegal

Presumption of Negligence from Burning of Patient

(Meyer et ux. vs. McNutt Hospital (Calif.), 159 Pac. R. 436)

The Supreme Court of California affirms a judgment for $750 damages in favor of the plaintiffs, husband and wife, for injuries caused, as alleged, by the carelessness of the defendant's employees in allowing Mrs. Meyer to be badly burned on the legs by a hot water bottle while she was unconscious from the effects of an anesthetic administered to her before a surgical operation was performed, although there was no direct evidence as to just when or how the injuries were caused. The court says that Mrs. Meyer testified that there were no burns or injuries of any sort on her legs when she entered the hospital, or up to the time when she lost consciousness. When she regained her senses she suffered pain and complained to her nurse, who found blisters on the patient's legs. The injuries were treated as burns usually are and yielded to the treatment. The surgeon who performed the operation testified that she was not burned while in his presence, and the nurse who had charge of Mrs. Meyer before and after the operation said, in her direct testimony, that she put no hot water bag or anything of the sort in Mrs. Meyer's bed. But, while there was no direct testimony to the effect that any servant of the defendant hospital had applied hot water bags or any other instrumentality to produce the injuries on Mrs. Meyer, the court thinks the jury was justified in determining from all of the circumstances that the burns were inflicted while the patient was unconscious and under the exclusive care of the defendant's nurses. The nature of the injuries themselves tended strongly to support this conclusion. Areas of 24 inches on one leg and 15 on the other were affected, and it seems hardly possible that one could be so burned while conscious without realizing it. Negligence like almost any other fact may be established by circumstantial evidence. It was clearly competent for the plaintiffs to prove, by the cross-examination of the surgeon, that, in spite of the lack of necessity for hot applications, they were, as matter of fact, generally used; also, to cross-examine the nurse on the custom of the hospital with reference to warming beds. The doctrine of *res ipsa loquitur* (the matter speaks for itself) was properly applied to the facts of this case. The patient was unconscious. Under its contract with her the defendant corporation owed her a duty of protection which was violated by the use of an instrumentality which produced the painful results which were made manifest when she came out from under the influence of the anesthetic. Proof of the accident carried with it the presumption of negligence. And this is the rule whether the liability is ascribed to the carelessness of experienced nurses or to the defendant's negligence in selecting nurses who were not competent.

Competency of Trained Nurse to Testify that Treatment Was Proper

(Barsi vs. Simpson (Calif.), 161 Pac. R. 127)

The District Court of Appeal of California, First District, in affirming an order denying the plaintiff's motion for a new trial after a verdict was rendered in favor of the defendant, says that the sole claim of negligence against the defendant was that, having been employed to reduce a fracture of the plaintiff's left arm between the wrist and the elbow, he did not bring the ends of the fractured bones into position. A trained nurse, who was at the time the superintendent of the operating room of a large hospital, witnessed the performance of the operation on the plaintiff by the defendant, and testified that from her experience as a trained nurse she would say that the defendant's treatment of the injured arm was proper and not subject in any respect to adverse criticism. This court thinks that the question of whether or not the witness was qualified to testify as an expert was a matter within the sound discretion of the trial court; and, there being no showing of a clear abuse of that discretion, the ruling of the trial court will not be disturbed.

Society Proceedings

COMING MEETINGS

Idaho State Medical Association, Sandpoint, June 25-26.
Maine Medical Association, Portland, June 12-13.
Massachusetts Medical Society, Boston, June 12-13.
Montana Medical Association, Kalispell, July 11-12.
Oregon State Medical Association, Portland, June 28-30.
Washington State Medical Association, Spokane, June 17-19.

ASSOCIATION OF AMERICAN PHYSICIANS

Meeting held in Atlantic City, May 2-3, 1917

The President, DR. GEORGE DOCK, St. Louis, in the Chair

Studies of Digestion

DR. FRANKLIN W. WHITE, Boston: First, as to the effects of stimuli from the lower bowel on the rate of emptying the stomach: In some persons with partial obstruction in the ileocecal region, the stomach empties very slowly, without any lesion of the stomach being found at operation. Experiments on animals show that when the colon is strongly irritated by injections, the stomach retains food far beyond its normal limits. Evidently, a strong stimulus from the lower bowel is needed to slow the human stomach, for it has been found that the stomach empties within five or six hours in some cases of ileac stasis of two or more days' duration, in most cases with good-sized twelve-hour residue in the ileum, and when the colon is distended by a large enema. Secondly, as to the effect of massage on the colon: Vigorous massage usually mashes up the contents of the colon, but has little or no effect in moving the contents forward. When a full cecum is apparently emptied at once, it has been found that gas has moved forward, and solid contents merely flatten out in both directions. Massage sometimes delays, but usually hastens the passage of colon contents at the end of several hours, evidently by stimulation of slow peristalsis. The effect of this stimulus is small in comparison with that of taking food. A rapid onward mass movement of a large portion of the colon contents has been seen rarely (twice) after massage. These large movements have no direct relation to the force of the massage, but follow gentle palpation.

DISCUSSION

DR. S. J. MELTZER, New York: What about the effect of the reflexes? The retardation may be caused in two ways: first, by inhibiting the movements of the stomach walls, and second, by increasing the contraction of the pylorus. In the first there would be an arrested progress in the gastro-intestinal canal. That the contraction of the pylorus might be increased would not be surprising because we know that obstruction in the gastro-intestinal canal increases peristalsis, and hence the action of the sphincter would be increased.

DR. FRANKLIN H. WHITE, Boston: There is no doubt that the delay is due to the spasm of the pylorus and not to the inhibitive action of the stomach.

Importance of Duodenal Alimentation in Severe Dyspepsia Occurring After Gastro-Enterostomy

DR. MAX EINHORN, New York: Of ten patients with postoperative severe dyspepsia treated by duodenal alimentation, eight made good recoveries, while two required further operative treatment. When patients suffering from postoperative dyspepsia after operations of this nature were placed on duodenal feeding for two weeks, good results usually ensued.

DISCUSSION

DR. JULIUS FRIEDENWALD, Baltimore: I believe that this is a life-saving method, and have used it in many instances. After the operation of gastro-enterostomy, the patient is not cured, or is cured only for a short time. I recall one instance in particular, a man, aged 23, with an ulcer of the stomach which had been treated medically and the condition relieved for only a short time. Gastro-enterostomy was then done, and the patient was relieved for about six months, when he had a return of symptoms of ulcer of the stomach. Duodenal feeding was then resorted to; the patient has now been well for about two years. Duodenal feeding should first be tried before further operation is undertaken.

DR. CHARLES G. STOCKTON, Buffalo: My results with duodenal feeding correspond closely with those of Dr. Einhorn. Some patients suffer after operation with the symptoms which he has described, and are worse after the operation than they were before. In some of these patients the food passes out of the stomach through one opening and back into the stomach through the other. I am convinced that I have seen at least one case relieved after the use of the duodenal tube.

DR. FRANKLIN W. WHITE, Boston: There are cases in which this method does not work well.

Intestinal Bacteria in Children

DRS. WILLIAM WEBER FORD, K. D. BLACKFAN, and M. D. BATCHELOR, Baltimore: An attempt has been made to discover changes in the bacterial flora of children as a result of feeding them artificial foods, particularly protein milk. The stools of breast fed children reveal small gram-negative bacilli, small gram-positive bacilli and micrococci and large gram-positive bacilli. Cultures on plain and dextrose agar give only gram-negative bacilli, *Bacillus coli* and *B. lactis-aerogenes*. The small gram-positive cocci and bacilli can be obtained by transferring material to acid broth. They are aciduric organisms (*B. acidophilus*, etc.). The large gram-positive bacilli are aerobic spore bearers and can be obtained only by heating material to 85 C. and incubating for twenty-four hours. Artificially fed children have shown the same types of gram-negative organisms, the same small gram-positive micrococci and bacilli, but in addition a great profusion of large gram-positive bacilli.

Treatment of Myelocytic Leukemia by Radium

DR. HERBERT ZIEGLER GIFFIN, Rochester, Minn.: We have treated thirty patients with myelocytic leukemia by the direct application of radium element over the spleen. We made applications of from 5 to 10 milligrams of radium in a tube for from three to four hours, with a total exposure of from twenty-four to thirty-six hours. A combination of proper treatment together with exposures to radium seems to be the best treatment for myelocytic leukemia.

DISCUSSION

DR. ALFRED STENGEL, Philadelphia: I have treated about fifty patients with myelocytic leukemia, and the records of forty-two are available. In many of these cases the clinical improvement was far out of proportion to the improvement of the blood condition. Leukocytic leukemia, like pernicious anemia, seems to be a relapsing disease. We have had a number of patients with this condition who have lived four or five years, possibly six years; eight years is the maximum duration of life when this condition is established.

DR. FRANCIS PEABODY, Boston: At the Huntington Hospital our results have been as Dr. Giffin has described. There was a remarkable drop to the normal in the white count, and a decrease in the size of the spleen. In every case that appears to be cured we watch the blood and try to keep the count down to as nearly normal as possible. These patients appear to be well if their blood count is kept down to 20,000 or 30,000. So soon as the blood count rises and the spleen enlarges, further treatment is indicated.

DR. LEONARD G. ROUNTREE, Minneapolis: I had an acute case in a girl who gave a brief five or six weeks' history of her trouble. She was anemic and had a large spleen. She was given a transfusion, and radium applications were used. She died at the end of ten days. An exposure to the radium for twenty-four hours had no effect on the spleen, probably because the patient did not live long enough.

DR. LEWELLYS F. BARKER, Baltimore: I wonder if the mass of bone marrow cells originate in the marrow and collect in depots, or whether they arise from other tissues? I rather favor the view that this condition exists all over the body. Only fatty bone marrow develops the cells. If this is true,

we are then dealing with a tissue disease and not with a bone marrow disease. There is a stimulating effect with a tendency to proliferation; if this is so, how can radium do any good? It destroys a great many cells. Is the destruction of the cells limited to the spleen where the radium is applied, or is it diffused over the body? We are treating the symptoms rather than the disease itself, and should consider all accessory factors as a help in the therapy of this disease.

DR. WILLIAM S. THAYER, Baltimore: I have always regarded this disease as related to pernicious anemia. It sometimes shows a disappearance, too, under treatment with arsenic.

DR. S. SOLIS COHEN, Philadelphia: In my experience the combination of radium treatment with arsenic is followed by the greatest prolongation of life and amelioration of symptoms.

DR. JOSEPH A. CAPPS, Chicago: The Roentgen ray and radium destroy some substances which are poor in leukemic cells. These substances are more or less selective.

(To be continued)

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Eleventh Annual Meeting, held at Utica, April 24-26, 1917

(Concluded from page 1657)

Present Status of Vaccine Therapy

DR. WARREN B. STONE, Schenectady: In the treatment of a moderate number of chronic infections, particularly those produced by the staphylococci, vaccines are of greater use than are other methods at our command. Those who study their cases, who make correct bacteriologic diagnoses and who administer autogenous vaccines, with a proper dosage and at correct intervals, will invariably get better results than those who hazard a guess as to the nature of the offending organism, who obtain a vaccine that may or may not contain the causative organism, and who give a dose every day until the vaccine is exhausted.

DR. RUFUS I. COLE, New York: Any scientific discovery with apparent practical bearing leads at once to a multiplicity of applications, some justifiable, others extremely far fetched, and without scientific basis. The desire to leave nothing undone that might be of any benefit to the patient, combined with lack of time to weigh carefully all the evidence, has led many to employ therapeutic methods, especially so-called biologic therapeutic methods which have little or no clinical evidence to support them, which are not based on sound experimental observations, and which in many cases not only do no good, but are actually harmful. In bringing about this state of affairs, the commercial houses which manufacture biologic products are much to blame. The physician should always be on his guard; he should obtain his evidence, so far as possible, from the original publications of the scientific workers, not from the advertisements of manufacturers. He should try to use those methods that are well established. If we disregard all the chaff and consider only those forms of serum therapy in which the value is well proved, we must believe that this form of therapy has been of the greatest good to mankind. The practicing physician, however, should keep close to earth and employ only that which has been tried and found to be of value.

Treatment of Dysthyroidism by Roentgen Rays

DR. MYRON B. PALMER, Rochester: Provided the proper treatment is given, nearly every patient with dysthyroidism treated with the Roentgen ray should show improvement, and others should be symptom free. Patients who are to be operated on should have at least one treatment four weeks previous to operation, and unless imperative, a second treatment should be given in cases in which there is a high pulse rate. The avoidance of surgery is essential in a large proportion of cases in which there are toxic symptoms. Large goiters causing no symptoms of dysthyroidism should be removed by the surgeon rather than treated with the Roentgen ray.

DISCUSSION

DR. JOHN M. SWAN, Rochester: I believe that Dr. Palmer's results from massive doses of the Roentgen ray are very good. I should like to ask what he does with those patients between treatments. I understand the intervals are from two to four weeks.

DR. DELANCEY ROCHESTER, Buffalo: Does Dr. Palmer employ rest or any drug treatment, diet or other means than the Roentgen ray? How does he treat these patients between times?

DR. ROSALIE S. MORTON, New York: Ninety per cent. of the English soldiers who are subjects of hyperthyroidism yield to Roentgen treatment and go to the depots in a short time. The average number of treatments is eight in seven weeks.

DR. EDWIN MACDONALD STANTON, Schenectady: In 1910 a paper read before the Schenectady Medical Society led to a discussion which brought out the fact that practically every member of the society had treated cases of goiter with good results. Treatment in the cases of hyperthyroidism at Guy's Hospital in London during a long period of years resulted in 80 per cent. ultimate cures.

DR. CHARLES J. HUNT, Clifton Springs: I have studied carefully six cases of dysthyroidism. Within two winters after the occurrence of an acute infection, the chronic infection of long standing was relieved for a lengthy period. In one case a gingivitis of a very purulent type appeared, and the patient developed well marked evidences of hyperthyroidism. Many patients develop such a phenomenon following an acute infection.

DR. MYRON B. PALMER, Rochester: No attention has been paid to rest or diet in my cases. The patients took a moderate amount of exercise. If they had much fever they were kept quiet for one or two weeks, particularly in the severer cases. There are patients who do well by simply being placed in bed, and in this class of patients we should not resort to surgery. The Roentgen ray is not the only treatment for these patients.

SYMPOSIUM ON PEPTIC ULCER

Symptomatology and Diagnosis of Peptic Ulcer

DR. GEORGE R. LOCKWOOD, New York: To make a correct diagnosis is laudable, but to make it hastily is culpable, yet this is constantly being done. The Roentgen ray is of tremendous value, but it has its limitations. In duodenal ulcer it is disappointing, and I am inclined to discard its evidence. The string test is unreliable, and often shows ulcer when none exists, and fails to show it when it does exist. Gastric analysis may or may not be of help. A double test should be used, one for the empty stomach in the early morning for hypersecretion, and test breakfast for hyperacidity. It is shown by charts, however, that hyperacidity is not necessarily a sign of ulcer, for in chronic ulcer 50 per cent. are normally acid. The general characteristics of ulcer are the regularity of hunger pains, and the relief after eating. This is often characteristic of chronic appendicitis also, but it will be found, by carefully charting of the regularity of these pains, before breakfast, lunch, dinner and bed, and the time of relief by food, that in the long run chronic appendicitis varies from the clock-like regularity of ulcer; pain overlaps a meal, or lasts all day, and careful watching and charting will make the differential diagnosis. The only confusion which exists is that in late ulcer there is continuous pain with vomiting of sour acid fluid. This is especially characteristic of ulcer. The diagnosis, however, is not easy to make; it requires time, patience and careful checking up by laboratory data. Only operation makes the final diagnosis absolutely certain, and even then there is the question frequently opened by the pathologist's report.

Practical Pathology of Peptic Ulcer

DR. JAMES EWING, New York: Opinions regarding the frequency with which cancer develops on ulcer of the stomach

vary from 5 to 70 per cent., a discrepancy which suggests that the criteria of this condition are not clearly recognized or employed in diagnosis. The available data bearing on the matter are statistical, clinical, anatomic and microscopic. Statistics show that healed ulcers are common at necropsy; the chief age of incidence of ulcer is between 20 and 30 years, and of cancer between 50 and 60 years; ulcer is much more common in females; cancer is more frequent in males, and the common sites of ulcer and cancer are not identical. Clinical observation shows that a history of ulcer long precedes cancer in the typical cases; that cancer has followed gastro-enterostomy for ulcer no more frequently than after resection of the ulcer, and that about 2 per cent. of ulcers long treated medically develop cancer. The anatomic appearance of undoubted cases of ulcerocarcinoma has usually been characteristic, the cancer beginning at one point of the ulcer and leaving the base free. Microscopically, there are a moderate number of cases of chronic ulcer which show suspicious precancerous changes, but these may not safely be regarded as equivalent to cancer. The great majority of chronic ulcers are free from such changes.

Roentgen Ray in Peptic Ulcer

Dr. Lewis G. Cole, New York: The small, early ulcer can be diagnosed with as great a degree of accuracy by serial roentgenography as a fracture of the long bones can be discovered by a roentgenogram. The Roentgen ray detects all kinds and stages of ulcer.

Medical Treatment of Peptic Ulcer

Dr. Ludwig Kast, New York: It is necessary to be clear as to which patients should be treated medically and which should not. "Surgical with delay" are (1) cases of perforated ulcers, and (2) repeated serious hemorrhages. "Surgical as soon as feasible" are (1) chronic ulcers, needing preparatory, rigid medical treatment; (2) indurated ulcers; (3) penetrating ulcers and hour-glass-contractions, and (4) cases offering suspicion of malignancy. "Borderline cases" (1) with no facilities for medical treatment; (2) neurasthenic cases, particularly those dependent on anodynes. The condition in all surgical cases is improved by previous medical preparation. Medical treatment is directed chiefly toward reducing gastric secretion and neutralizing hydrochloric acid as much as possible. Some points in the treatment are: covering and protecting the ulcerated surface by use of bismuth; giving of acid-binding foods; giving of alkalies; checking of gastric secretion; by proper arrangement of diet, avoidance of foods that stimulate gastric secretion. If after several weeks of medical treatment the patient is still dependent on a restricted diet, surgical treatment should be resorted to.

Surgical Treatment of Peptic Ulcer

Dr. John B. Deaver, Philadelphia: Under peptic ulcer I include gastric, duodenal, marginal and jejunal ulcer. While jejunal ulcer is more commonly encountered as a sequel to gastro-enterostomy, it can occur only as a distinct pathologic entity. Gastric and duodenal ulcers comprise two varieties, perforative and nonperforative. The surgeon and the bacteriologist have done a great deal in the treatment of peptic ulcer. The best safeguard against carcinomatous degeneration is excision of the ulcer. Gastro-enterostomy should be advised when obstruction is present. Even then it is not so efficacious as pylorectomy. The so-called internist should be called externist, as he never goes into the abdomen until the postmortem, and then he has some one else to do it for him.

Discussion on Peptic Ulcer

Dr. Fenton B. Turck, New York: Most surgeons are agreed that gastric ulcer is of bacterial origin. I have found that bacteria penetrate the intestinal wall and pass into the pyloric region. I have produced thirty-six cases of ulcer experimentally. Injecting the bacteria from the teeth and tonsils into the blood does not cause infection; it is an autolysis, not an infection. In my experiments I have fed the animal with beef and fatty acids, and as a result caused migration of bacteria into the intestinal walls. They pass into the submucosa and increase ferments in the pylorus and cause autolysis. As to the treatment of these cases, the surgeon knows because he sees the conditions. We do not need to theorize from the outside. There is no recurrence after suture of the perforation because immunity is produced by the intestinal flora and an autovaccination takes place.

Dr. William Skinner, Geneva: There are many diagnostic points for gastric ulcer. One is discoverable by tactile sense. A slight palpation discloses a peculiar kind of rigidity over the location of the ulcer. In regard to the treatment of gastric ulcers by posterior gastrojejunostomy, I have had an interesting case in which there was a history of ulcer for twenty-one years. A gastrojejunostomy was done with relief of symptoms for six years; then there was a severe hemorrhage, and a pylorectomy was done. The ulcer had been eating out on one side and healing on the other. After the pylorectomy the patient was well two years, and then had another hemorrhage. An ulcer was found on the anterior wall of the stomach, which was excised, and sutured from the inside and the gastrojejunostomy enlarged. The man has recovered and is well.

Dr. S. I. Hirsch, New York: There is no unanimity of opinion that every ulcer should be excised. Surgeons want to know whether it is early carcinoma or not. Consequently the question of diagnosis is extremely difficult. The Roentgen ray has done far more than stomach tubes or string tests. Erosion does not change the stomach sufficiently, and functional changes must be considered in ulcer cases.

Complete Avulsion of Scalp

Dr. F. H. Flaherty, Syracuse: I have observed five cases. A woman, working in a laundry, had her hair caught in a revolving shaft. The scalp was completely torn from the skull. She was alone at the time of the accident, and was obliged to walk 12 feet to stop the motor. She remained quite conscious and suffered little shock. The scalp was covered with Tiersch grafts. Only autodermic grafts should be used, Tiersch grafts from the thigh being preferable. It is absolutely impossible to replace the scalp, which shrinks into hard, dry skin, and becomes infected. Grafts should be placed on freshly denuded surfaces as soon as possible. If an antiseptic is desired, 50 per cent. alcohol solution is good, if a protective, sterile petrolatum. The same region of the body could provide grafts every six weeks if necessary.

Acute Hemorrhagic Pancreatitis

Dr. William Linder, Brooklyn: In three years I have observed thirty-three cases. It is important to think of the possibility of acute hemorrhagic pancreatitis when there is an acute abdominal condition. It is not necessarily a fatal disease; there are more cases of the mild type than of the fulminating type. If recognized early, they do not become serious. Early diagnosis is absolutely necessary to secure good results. The pancreas must be punctured with blunt forceps to drain the very toxic material. Often a cholecystostomy or a cholecystectomy is necessary as well. In one third of my cases I found associated gallbladder disease.

Discussion

Dr. Johnson, Batavia: There has been a tendency recently to make the diagnosis of acute pancreatitis frequently. The disease is often something else instead. Men nowadays make the diagnosis as a habit. I had one case in which there was a great bulging on the costovertebral angle on the left side; when the abdomen was opened, sloughs of the pancreas came out. It was an acute pancreatitis, followed by a cyst.

Dr. Parker Syms, New York: I had a case which was not diagnosed until after death. It was associated with other complications. The man presented signs of obstruction, such as distention. The cause of the disease was not surmised. A rightsided section was done and a torsion of the omentum found. This, a surgical entity, occurred only with adhesions of the omentum from an old hernia on the right side. Pancreatitis was undoubtedly the underlying cause of the torsion. There was at that point a great discrepancy between the veins and the arteries, and when the hernia was fixed, adhesions to the omentum occurred and involved the coils of the intes-

tine. At operation, the gangrenous part of the omentum was ablated, and the man was immediately but only temporarily relieved. Signs of obstruction continued, and a cholecystostomy was done without avail. The condition was not recognized until necropsy. There was no evidence of fatty necrosis.

Nephropexy

DR. SAMUEL LLOYD, New York: Floating kidney is a clinical entity. It often exists without symptoms of any kind. Kidneys are movable in the first, second or third degrees, the latter being a distinctly floating kidney, remaining out of place even when the patient is recumbent. In this class, marked symptoms might be noted. Patients often are treated for years by gastro-enterologists, without knowing that the trouble is nephritic in origin. Symptoms are not distinctly referable to the kidney; such symptoms as nervousness, heart disturbance, dyspnea, emaciation, gastric disturbances and constipation are often marked. There might be perinephritis and toxemia. Many of these symptoms are due to chronic parenchymatous nephritis, owing to changes in the circulation of the organ. As regards fixation of the kidney, there need be no recurrence, if proper technic is observed. The kidney must be firmly attached to the lumbar fascia, and as the kidney is posterior to the peritoneum, no intra-abdominal pressure is sufficient to keep it in place. The kidney should be anchored to the lumbar fascia, close to the muscles, and with a freshened surface close to the separated muscles themselves.

DISCUSSION

DR. JAMES VANDER VEER, Albany: There is one thing even better than keeping the patient in bed, and that is to raise the foot of the bed 12 inches and give the hepatic flexure a chance to get back. I do not like to operate on a movable kidney without Roentgen diagnosis.

DR. ALBERT VANDER VEER, Albany: In cases that have come under my observation, decided relief has been given by operation.

Cancer of the Bladder

DR. JAMES A. GARDNER, New York: This is an especially discouraging condition, its only hope lying in early diagnosis. Half the tumors are malignant, many tumors becoming so after being benign for years. Blood in the urine should be investigated at once, and cystoscopy performed, as bleeding at first is more or less intermittent. Blood in the urine and much epithelium is suggestive of bladder tumor. Pain often does not occur till later, when large clots occasion difficulty in voiding. Cystoscopy is also absolutely necessary for early diagnosis, and if benign papillomas are found, fulguration should be tried. If there is suspicion of malignancy, operation must be done. Mortality is lower, recurrence much less, and freedom from recurrence much greater when partial resection of the bladder is performed. A wide resection of the bladder wall offers the best method of treatment in carcinoma of the bladder. It is important to locate the ureters in an operation. An extraperitoneal operation is the one of choice. The integrity of the bladder should be preserved as much as possible. The surface of the growth should be smeared with the actual cautery. If there is involvement of the ureter, it is tied off and transplanted to the point at which there is least tension. If the neck of the bladder is involved, a total resection is necessary. The ureters are then transplanted into the bowel.

DISCUSSION

DR. JAMES VANDER VEER, Albany: Cancer of the bladder should be discussed among laity and physicians to bring patients for cystoscopy early enough. Even well educated physicians give their patients hemostatics or styptics and tell them to come back later, if there is recurrence, and many patients do not come for a year. One such patient had to have transplantation of the whole side of the bladder. The first time bleeding is seen, the patient should be examined cystoscopically. In localized operations of the bladder, we can bring the patient out alive with early treatment; but when the patient is riddled with cancer and general carcinomatosis has set in, it is hopeless.

Sarcoma, Complicating Primary Paget's Disease of the Bone

DR. LEDRA HEAZLET, Auburn: A man, aged 40, in 1913 first had pain and weakness in the feet. He wore arches without benefit. There was swelling of the tibia, and walking was painful. He was treated for rheumatism. He appeared prematurely old. He was well nourished, but anemic; he walked with a limp. His movements were stiff and awkward. He had a tender swelling over the midspine of the tibia. The Roentgen diagnosis was syphilitic osteitis. The blood Wassermann test was negative. He was treated with salvarsan without benefit. In September, 1915, tumor tissue was removed for examination and a diagnosis of giant cell sarcoma was made. Roentgenoscopy of the rest of the skeleton revealed the true nature of the primary bone condition. Lesions of osteitis deformans were found in the skull, long bones, hands and feet. In January, 1916, the patient had an operation for removal of tumor. In June, 1916, he had a pathologic fracture of one femur. This got slowly better and in November, 1916, he had a pathologic fracture of the other femur. Later there were fractures in the right radius and humerus. Death occurred in February, 1917. No necropsy was held.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Anatomy, Philadelphia

May, XXI, No. 3

1 Studies on Hemal Nodes in Bovines and Goats. A. W. Meyer, San Francisco.—p. 359.
2 Id. A. W. Meyer, San Francisco.—p. 375.
3 Position of Respiratory Vascular Net in Allantois of Chick. V. Danchakoff, New York.—p. 407.
4 Study of Reaction of Lymphatic Endothelium and of Leukocytes, in Tadpole's Tail, Toward Injected Fat. E. R. Clark and E. L. Clark, Columbia, Mo.
5 *Blood Vessels of Heart Valves. S. Bayne-Jones, Baltimore.—p. 449.
6 Chondriosomes in Cells of Fish Embryos. J. Duesberg, Baltimore.—p. 465.

5. **Blood Vessels of Heart Valves.**—Bayne-Jones summarized his studies as follows: 1. By the injection of carmin gelatin under pressure of 160 to 190 mm. Hg into the coronary arteries, blood vessels are demonstrable in the valves of the normal human heart. 2. The atrioventricular valves receive distinct branches from the annular divisions of the coronary arteries. These vessels pass into the valves at the thickened regions above the insertion of the chordae tendineae and ramify chiefly along the line of closure of the valves. Arteries, veins and an anastomosing capillary bed are recognizable in these locations. 3. The chordae tendineae receive a few arterioles from the vessels of the papillary muscles. These traverse chordae tendineae chiefly beneath the endothelium covering these structures. 4. The semilunar valves receive a definite blood supply from the vasa vasorum of the pulmonary artery and aorta and from the endocardial vessels of the auricles. 5. These vessels afford a definite anatomic basis for the conception that endocarditis may be embolic in its origin.

American Journal of Physiology, Baltimore

May, XLIII, No. 2

7 Excitation of Microscopic Areas; Nonpolarizable Capillary Electrode. F. H. Pratt, Buffalo.—p. 159.
8 *Accuracy of Movement in Absence of Excitation from Moving Organ. K. S. Lashley, Baltimore.—p. 169.
9 Cardioskeletal Quotient. W. L. Mendenhall, Hanover, N. H.—p. 195.
10 *Physiology of Stomach. Alleged Influence of Removal of Salivary Glands on Secretion of Gastric Juice. A. M. Swanson, Chicago.—p. 205.
11 Composition of Saliva in Relation to Incidence of Dental Caries. J. A. Marshall, San Francisco.—p. 212.
12 *Epinephric Content of Blood in Conditions of Low Blood Pressure and Shock. E. A. Bedford, New York.—p. 235.
13 Bile Pigment Metabolism. Bile Pigment Output Influenced by Hemoglobin Injections, Anemia and Blood Regeneration. G. H. Whipple and C. W. Hooper, San Francisco.—p. 258.

14 Id. Bile Pigment Output Influenced by Hemoglobin Injection; Splenectomy and Anemia. C. W. Hooper and G. H. Whipple, San Francisco.—p. 275.
15 Id. Bile Pigment Output Influenced by Hemoglobin Injection in Combined Eck Bile Fistula Dog. C. W. Hooper and G. H. Whipple, San Francisco.—p. 290.
16 *Effects of Epinephrin on Distribution of Blood. Volume Changes and Venous Discharge in Spleen. R. G. Hoskins and R. E. L. Gunning, Chicago.—p. 298.
17 *Id. Volume Changes and Venous Discharge in Kidney. R. G. Hoskins and R. E. L. Gunning, Chicago.—p. 304.
18 *Differential Actions of Epinephrin. F. A. Hartman and L. McPhedran, Toronto, Canada.—p. 311.
19 Hydrolytic Study of Chitin. S. Morgulis.—p. 328.
20 Fate of Sucrose Parenterally Administered. S. Kuriyama, New Haven, Conn.—p. 343.
21 *Perfusion of Mammalian Medulla; Effect of Carbon Dioxid and Other Substances on Respiratory and Cardiovascular Centers. D. R. Hooker, D. W. Wilson and H. Connett, Baltimore.—p. 351.

8. **Accuracy of Movement in Anesthetic Limb.**—Active movements of the left knee were studied by Lashley in a subject having a complete anesthesia to movements of this joint. Evidence bearing on the nature of the control of movement in such a condition suggests the following conclusions. Accurate movement of a single joint is possible in the absence of all excitation from the moving organs. The interaction of the various muscles concerned in the movement is not obviously different from that found in normal subjects. In contrast to reflexly controlled movements, the accuracy of movements under such conditions is in direct ratio to their rate, that is, within the limit tested, the quicker the movement the more accurate it is made. The control of accuracy of the movements is relatively independent of their duration; movements of different length do not result from a uniform excitation continued for varying time intervals but from variations in the intensity of motor discharge. Lashley suggests that it is probable that a control of the intensity of motor discharge after its initiation is possible in the absence of excitation from the organs activated. The normal phenomena of fatigue occur when it is highly probable that the chemical sensitivity of the fatigue muscles is reduced.

10. **Removal of Salivary Glands and Gastric Secretion.**—Swanson's results contradict the theory of a hormone in the salivary glands stimulating the secretion of gastric juice. Extirpation of the salivary glands in the dog does not decrease the gastric juice secretion (appetite and secretagogue juice). Extirpation of the salivary glands causes a distinct rise in the acidity of the gastric juice. This increase in acidity is greater than can be accounted for by the slight increase in the rate of secretion. The slight increase in quantity may be due to the absence of the alkaline saliva. After extirpation of the salivary glands, the maximum secretion rate after a meal appears slightly retarded. This may be due to the absence of the water of the saliva, and to decreased psychic secretion, owing to the dryness of the mouth and consequent impaired taste.

12. **Epinephric Content of Blood in Shock.**—According to Bedford increased quantities of epinephrin are thrown into the blood during conditions of low blood pressure and shock. This increased amount of epinephrin found in the blood is accompanied by a hyperactivity of the suprarenal gland and is not simply the result of the release of epinephric material stored in the gland. The epinephric content of the blood increases only after a somewhat prolonged continuation of the conditions leading to shock. The quantity of epinephric material in the blood increases with the prolongation of the period of low blood pressure and shock. Bedford suggests that this increased output of epinephrin into the blood may be a last effort on the part of the organism to resist the forces that are tending toward a fatal degree of low blood pressure.

16. **Effects of Epinephrin in Spleen.**—Epinephrin in all effective dosages, whether injected instantaneously or infused, Hoskins and Gunning found, causes in the spleen a brief dilatation followed by a contraction. Occasionally the contraction is followed by a secondary dilatation after the administration of the epinephrin is discontinued. Aside from the brief preliminary effect in no case was a pure (primary) dilatation observed. The threshhold for splenic contraction is lower than for changes in arterial pressure. Occasionally a quiescent spleen is stimulated by epinephrin to rhythmic contractions. Epinephrin causes a brief increase, then a decrease in the outflow from the splenic veins.

17. **Effects of Epinephrin in Kidney.**—Epinephrin in both depressor and pressor doses ordinarily causes contraction of the kidneys of dogs and a corresponding decrease in the venous outflow. Instantaneous injections and slower infusions of epinephrin give qualitatively similar results. One animal gave renodilatation with smaller and renoconstrictions with larger doses. The threshhold for renal changes and blood pressure changes is about the same. The observations reported on by Hoskins and Gunning as a whole do not support but also do not definitely disprove the theory that in normal animals epinephrin diuresis is due to renal dilatation.

18. **Differential Action of Epinephrin.**—Hartman and McPhedran claim that small doses of epinephrin cause constriction of the vessels of intestine, of kidney, and generally also of spleen. The minimal dose necessary to produce this constriction is in much the same order of magnitude as that required to cause a fall in blood pressure, but it is not necessarily identical with it, nor is it the same for every organ in the same animal. Increase of the dose of epinephrin causes in all cases marked dilatation of the intestine. This dilatation is brought about by doses materially less than those which are necessary to cause a rise in general blood pressure. This dilatation in the intestine is under control of the central nervous system, and is done away with by severing connection with the central nervous system. Epinephrin in the majority of cases has in all doses a constrictor effect on the spleen; in some, minute doses cause first dilatation, which is the initial change of a series of rhythmical splenic waves.

21. **Effect of Carbon Dioxid on Respiratory Center.**—The experiments outlined by the authors appear to prove conclusively that blood with a comparatively high tension of carbon dioxid causes a greater stimulation of the respiratory center than does blood with a lower tension of carbon dioxid but with the same hydrogen ion concentration.

Archives of Internal Medicine, Chicago

May, XIX, Part I, No. 5

22 *An Experimental Test of Relation of Sewage Disposal to Spread of Pellagra. J. F. Siler, P. E. Garrison and W. J. MacNeal, New York.—p. 683.
23 *Intestinal Eosinophilia; Report of Case. G. D. Barnett, San Francisco.—p. 695.
24 *Significance of Embryonal Fat Cells in Certain Pathologic Conditions. D. Symmers and A. Fraser, New York.—p. 699.
25 *Experimental Appendicitis. J. W. McMeans, New York.—p. 709.
26 *Transient Heart Block—Electrocardiographic Studies. E. B. Krumbhaar, Philadelphia.—p. 750.
27 *Carbon Dioxid Content of Blood and of Alveolar Air in Obstructed Expiration. E. D. Friedman and H. C. Jackson, New York.—p. 767.
28 Study of Blood Sugar. Comparison of Tolerance for Glucose in Diabetic and Normal Subjects. R. Cummings and G. Piness, Los Angeles.—p. 777.
29 Human and Animal Liver After Alcohol. F. A. McJunkin, Milwaukee.—p. 786.
30 Influence of Radiations from Kromayer's Mercury Quartz Lamp on Cerebral Cortex. H. Wago, Tokio, Japan.—p. 801.
31 Reflex Action of Volatile Irritants on Circulation. C. C. Lieb and W. W. Herrick, New York.—p. 811.

22. **Relation of Sewage Disposal to Spread of Pellagra.**—The relationship of improper sewage disposal to pellagra was investigated by the authors in a pellagrous community, Spartan Mills, S. C. As a result of this study the installation of sanitary systems of sewage disposal is recommended as a measure for the restriction of the spread of pellagra in the general population. Subsequent to the installation of a water carriage system of sewage disposal at Spartan Mills, the community has been transformed from a pellagra focus to a community in which pellagra no longer spreads. Old cases of pellagra have continued to recur in this community, although a distinct decrease in them has occurred in the third year after the installation of the sewers.

23. **Intestinal Eosinophilia.**—In the case reported by Barnett the patient had had occasional attacks of diarrhea alternating with constipation for a few months. During the attacks of diarrhea the bowels moved five or six times a day, and he

frequently noticed masses of mucus in the stool and at times blood. The man had an eosinophilia of 47 per cent. A stool following castor oil contained much mucus and red blood. Microscopically a very few ova of trichnuris trichiura were found after extensive search with special methods. The proctoscope inserted 23 cm. showed the mucous membrane of the rectum everywhere covered with glairy mucus, pus and bright red blood. No areas of ulceration were seen. Smears of the pus showed a large percentage of eosinophils. No Charcot-Leyden crystals were seen. A small bit of necrotic tissue found in the stools was sectioned, and showed a chronic inflammation, with large numbers of eosinophils in the mucosa and submucosa.

24. **Embryonal Fat Cells.**—There is a condition in marantic infants attended by such extensive hyperplasia of the so-called primitive fat organs as to resemble a new growth. The body of a 3 months old infant was examined postmortem by Symmers. The fat bodies are cherry-red in color and are composed of embryonal fat cells and a complex system of intercommunicating capillaries. The bodies may be found wherever fat tissues normally exist, but are particularly numerous in the connective tissue planes of the neck and chest and around the suprarenals and kidneys. Symmers and Fraser claim that the glandula insularis cervicalis of Pende, recently described as a new member of the endocrine series, is identical in structure and function with the embryonal fat organs. The authors also report a case of Whipple's disease, a disease of the fat absorption apparatus characterized, histologically, by neutral fats and fatty acids in the lymph spaces of the intestine, mesentery and mesenteric lymph nodes, the tissues showing, in addition, extensive hyperplasia of embryonal fat cells and the presence of foreign body giant cells. The histology is indicative of a chronic productive inflammatory process attended by such extensive hyperplasia of embryonal fat cells as to suggest transformation into a sarcoma (embryonal cell liposarcoma, malignant lipoblastoma).

25. **Experimental Appendicitis.**—The effects of the intravenous injection of micro-organisms derived from several sources were studied by McMeans. Material was obtained from appendixes, from the tonsils of patients having appendicitis, from tonsils and adenoid tissue removed in the children's clinic, from tonsils of fracture patients otherwise apparently healthy, and from pus of an infected hand. In 125 rabbits injected intravenously with a variey of organisms, gross hemorrhages were noted in the appendix sixty-two times. The frequency with which hemorrhage and bacterial emboli are observed without the presence of an inflammatory reaction suggests that a mechanical factor must be considered as well as the direct action of the organisms and their toxins. The thymus, lymph glands of the mesentery, of the inguinal region, glands about the head of the cecum, and also Peyer's patches, were commonly affected in conjunction with hemorrhages distributed variously throughout the organs of the body. The fact that a variety of different organisms have been associated with changes in rabbits' appendixes tends to indicate that a special organism has not yet been found. The production of appendicitis in animals by the intravenous injection of large doses of vigorous bacteria cannot be considered as an indication that these organisms attack the human appendix by way of the blood. McMeans protests against the idea that any organism possesses a peculiar affinity for any given organ when the same organism shows a capacity for the invasion of other organs in a very appreciable proportion of experiments. As the result of a study of the literature, and experimental work, McMeans finds little evidence to support the belief that appendicitis in the human subject is ordinarily caused by a blood infection.

26. **Transient Heart Block.**—Four different types of transient heart block are described, analyzed and discussed by Krumbhaar: (*a*) transient partial A-V block of myocardial origin, occurring during an exacerbation of acute rheumatic carditis, varying with the degree of arthritis, yet responding to atropin; (*b*) transient complete A-V block, brought on by digitalis, and temporarily reducible by atropin to a 2:1 rhythm; (*c*) the development of defective conductivity in the right branch of His' bundle in an old man suffering with arteriosclerosis, chronic myocarditis and anginoid symptoms; (*d*) transient periods of prolongation of the P-R interval (to more than 0.3 second) without adequate cause in a healthy young adult male. He is also subject to paroxysmal tachycardia of auricular (or sinus) origin, which occurs independently of and does not affect the state of the conductive system.

27. **Carbon Dioxid of Blood.**—The high carbon dioxid content of the alveolar air in asthma and obstructed expiration in general Friedman and Jackson believe is due to a circulatory cause. The rise in intrabronchial pressure during the long expiration interferes with the free flow of blood through the pulmonary capillaries and causes a damming back of the blood on the venous side. There is a consequent accumulation of carbon dioxid in the blood with the liberation of carbon dioxid into the alveolar air, chiefly during the short inspiratory phase of asthmatic breathing.

Bulletin of Medical and Chirurgical Faculty of Maryland

May, IX, No. 11

32 Physician's Duty in Present Crisis. C. W. Mitchell, Baltimore.—p. 163.
33 Osler Testimonial Fund. H. B. Jacobs, Baltimore.—p. 168.

California State Journal of Medicine, San Francisco

May, XV, No. 5

34 Some Epidemiologic and Bacteriologic Observations on Paradysentery Infections in California. K. F. Meyer and J. E. Stickel, San Francisco.—p. 139.
35 Sanitary Service of War and Demobilization Period. R. G. de Voe.—p. 146.
36 Is Acute Anterior Poliomyelitis Spread by Direct Personal Contact? J. C. Geiger, Berkeley.—p. 150.
37 Fallacy of Post Vaccination Tetanus Due to Vaccine Virus. J. C. Geiger, Berkeley.—p. 152.
38 Death Due to Status Lymphaticus Following Injection of Diphtheria Antitoxin. W. C. Hassler, San Francisco.—p. 153.
39 Typhus in California. J. G. Cumming.—p. 154.
40 Intestinal Infection in Sacramento Valley. F. F. Gundrum and N. G. Hale, Sacramento.—p. 157.
41 Three Cases of Beriberi. A. C. Reed, San Francisco.—p. 158.
42 Prevention of Quarantinable Diseases on Border and at Ports of Embarkation. W. C. Billings, Angel Island.—p. 160.
43 Acute Poliomyelitis with Special Reference to Myoclonus. B. Oettinger, Long Beach.—p. 168.

Cleveland Medical Journal

April, XVI, No. 4

44 Clinical Classification of Chronic Nephritis. H. A. Christian, Boston.—p. 223.
45 Antrum Surgery. S. M. Weaver, Cleveland.—p. 232.
46 Fracture of Spine without Cord Involvement. W. G. Stern, Cleveland.—p. 251.
47 Cleveland's Rôle in Medical War Relief. R. F. Stone, Cleveland.—p. 259.

Journal of Cancer Research, Baltimore

April, II, No. 2

48 *Effects of Radium on Tissue Growth in Vitro. F. Prime, New York.—p. 107.
49 *Epithelioma Developing in Pellagrous Dermatitis. K. M. Lynch, Charleston, S. C.—p. 131.
50 *Tissue Growth and Tumor Growth. L. Loeb, St. Louis.—p. 135.
51 *Significance of Lymphocyte in Immunity to Cancer. M. J. Sittenfield, New York.—p. 151.
52 Influence of Various Factors in Nutrition on Growth of Experimental Tumors. S. R. Benedict and A. H. Rahe, New York.—p. 159.
53 *Alkalinity of Blood in Malignancy and Other Pathologic Conditions, Together with Observations on Relation of Alkalinity of Blood to Barometric Pressure. M. L. Menten, St. Louis.—p. 179.
54 Inheritance Behavior of Infections Common to Mice. Studies in Incidence and Inheritability of Spontaneous Tumors in Mice. M. Slye, Chicago.—p. 213.
55 Effects of Nervous System on Growth and Development of Tumors. I. Adler and M. J. Sittenfield, New York.—p. 239.
56 Tumor Immunity in Chick Embryo. H. N. Stevenson, New York.—p. 245.

48. **Effects of Radium on Tissue Growth.**—Prime found that radium in sufficiently large doses will so injure the nucleus of the cell as to prevent further mitosis. This injury to the mitotic power of the cell does not, however, prevent a marked increase in the area of the culture due to an outwandering of cells. This power of the radiumized cells to wander out from the main tissue is limited, extending through two or

at most three generations. When there is a marked outwandering of cells after radiumization, but no mitosis, the tissue will not grow when inoculated into mice. Radium does not, therefore, kill the cells outright, as is shown by the persistence of beating in heart muscle cells, but injures the nucleus in such a manner as to prevent further division, which must eventually result in the death of the cell, if its energy is expended in growth and division and not in a purely mechanical function. The well known high resistance to radium of the cells of the central nervous system, which do not divide in adult life, is presumably correlated with the survival of the heart muscle cells after lethal exposures. The stimulating effects of minimal doses of radium are shown by the profuse outwandering of the cells which occurs after sublethal exposures.

49. **Epithelioma Developing in Pellagrous Dermatitis.**—So far as such an application can be made, Lynch's observation of epithelioma formation in pellagrous dermatitis seems to draw the skin lesions resulting from the action of the Roentgen light, from sun-burn, including the malignant degeneration of the skin in xeroderma pigmentosum, and from pellagra closer together, and to lend support to the belief that the action of light is concerned in the development of the dermatitis in pellagra.

50. **Tissue Growth and Tumor Growth.**—Loeb suggests that the majority, and ultimately perhaps all, of the phenomena observed in tumor growth find a parallel in the growth of normal tissues under special conditions.

51. **Significance of Lymphocyte in Immunity to Cancer.**—A high degree of lymphocytosis, caused either by subcutaneous injections of pilocarpin or by the intravenous introduction of leukocytic cream from rats that had received stimulating doses of Roentgen ray, Sittenfield says, affords neither a protective nor a defensive mechanism against tumor inoculation. Naturally immune rats, which had had their immunity tested by three or four inoculations of Flexner-Jobling rat carcinoma and were then subjected to repeated doses of Roentgen ray, causing in them a very low lymphoid count in the blood, remained refractory to further inoculation of the Flexner-Jobling tumor. Neither increase nor reduction of the lymphoid elements in the blood had any influence on either resistance or susceptibility to tumor growth.

53. **Alkalinity of Blood in Malignancy.**—The general result of Menten's study is that in nearly all the cases of cancer or sarcoma examined, there is to be found an alkalinity of the serum greater than that of the serum of normal individuals. Of the seventy cases examined by Menten only three or four were found which had an alkalinity of the normal amount or less than normal. In all other cases there was some excess of alkalinity and in some of the cancers of the internal organs this was very marked. In one case in which bicarbonate was given there was also a very marked increase in rate of growth of the cancer. This rise of alkalinity in the blood, while generally occurring in cancer, is not specific for cancer. It was observed in several other conditions. On the other hand, in certain heart lesions with dyspnea and various other nonmalignant diseases, the alkalinity is reduced below the normal. In diabetes mellitus, in the state before acidosis, there is an abnormally high alkalinity. High alkalinity is not, therefore, a certain indication of cancer, but its presence in suspected cancer is an added reason for a positive diagnosis. The examination of the alkalinity of the serum may, therefore, be of considerable practical assistance in the diagnosis of this disease.

Journal of Laboratory and Clinical Medicine, St. Louis

May, II, No. 8

57 *Cases of Unusual Aneurysms. P. G. Woolley, Cincinnati.—p. 525.
58 Toxicity of Heterologous and Homologous Serums. C. E. Roser, Ann Arbor, Mich.—p. 536.
59 *Chemistry of Pernicious Anemia. T. L. Squier, Ann Arbor, Mich.—p. 552.
60 Two Cases of Fatal Heroin Poisoning. W. D. McNally, Chicago.—p. 570.
61 Animal Inoculations Supplementary to Introductory Course in Pathogenic Bacteriology. W. H. Manwaring and J. T. Connell, Stanford University, Calif.—p. 573.
62 Technic with Fridericia Apparatus. M. J. Breuer, Lincoln, Neb.—p. 575.
63 Cyanid Poisoning in Case of Typhoid. L. Hektoen, W. S. Haines, Chicago, and V. C. Vaughan, Ann Arbor, Mich.—p. 576.
64 *Improved Test for Indican in Urine. F. C. Askenstedt, Louisville, Ky.—p. 578.
65 Diagnosis of Malignant Tumors by Paraffin Sections of Centrifuged Exudates. F. S. Mandlebaum, New York.—p. 580.

57. **Cases of Unusual Aneurysms.**—Woolley cites cases of aneurysm occurring in the innominate artery; the superior mesenteric artery. In connection with the almost completely calcified splenic artery. Aneurysm associated with a congenital cardiac septal defect in a young infant.

59. **Chemistry of Pernicious Anemia.**—Squier states that pernicious anemia may be considered the result of a gastrointestinal disturbance leading to destruction of mucosa sufficient either to allow undigested proteins to leak through into the blood stream where their parenteral digestion liberates protein poisons, or to the absorption of known hemolytic toxins produced in the course of intestinal putrefaction such as, that is, p-oxyphenylethylamin. In either case the poison has a destructive influence on the intestinal mucosa, as well as the more evident hemolytic effect, and this results in the establishment of a vicious circle. Splenectomy lessens the severity of the disease by increasing the resistance of the reds to hemolytic agents. When the hemolymph glands and accessory spleens take on the splenic function a relapse occurs. By injections of hemolysins, such as saponin, experimental anemias can be produced in animals that are apparently identical both in the blood picture and course with true idiopathic pernicious anemia.

64. **Improved Test for Indican in Urine.**—The qualitative test for indican described by Askenstedt is a simplified procedure of his quantitative test published in 1912, and is offered to those practitioners who can not afford the twelve minutes necessary for a quantitative determination. Dilute the urine until it has a specific gravity of 1.005. For example, if urine shows a specific gravity of 1.017, dilute five parts of urine with twelve parts of water; if its specific gravity is 1.021, dilute five parts of the urine with sixteen parts of water, etc., corrections being made for temperature. An exception is made for diabetic urine, which is diluted until its urea content is 0.5 per cent. Place 10 c.c. of the diluted urine in a test tube and warm over a flame until the lower end of the tube begins to feel hot to the hand. Then add 8 c.c. chloroform and mix by shaking a few times. Ten cubic centimeters of a solution of 0.4 per cent. perchlorid of iron in concentrated hydrochloric acid (Obermeyer's reagent) is now added and, with the tube duly stoppered, quickly extract the indigo by shaking the tube two minutes, holding it in a horizontal position. By releasing the stopper once or twice during the procedure, squirting will be prevented. After this, let the chloroform fall to the bottom of the tube, then pour off most of the supernatant fluid, fill the tube nearly full with water, invert it a few times to wash the chloroform, and let it again precipitate in the tube. If indican is normal in amount, the chloroform will remain white or show a mere trace of blue. Any increase in blue exhibits a proportionate excess of indican. The reading should be made as soon as the chloroform is precipitated, for on standing the chloroform slowly becomes transparent, with an increase in the shade of blue when present.

Journal of Nervous and Mental Disease, Lancaster, Pa.

May, XLV, No. 5

66 *Comparative Study of Cases Showing Thalamic Lesions at Necropsy. A. B. Evarts, Washington, D. C.—p. 385.
67 Spinal Type and Family Form of Progressive Muscular Atrophy, as Appearing in Adults. G. W. Robinson, Kansas City, Mo.—p. 401.
68 Variations in Sensory Threshold for Faradic Stimulation in Psychopathic Subjects. G. P. Grabfield, Boston.—p. 410.
69 *Case of Anomalous Torsion Spasm. F. X. Dercum, Philadelphia.—p. 420.
70 *Make-Up of Atypical Cases of Manic Depressive Insanity. S. N. Clark, Kankakee, Ill.—p. 424.

66. **Cases Showing Thalamic Lesions at Necropsy.**—Among the last thousand necropsies held at the Government Hos-

pital for the Insane in Washington there were thirty-one cases showing gross lesion of the thalamus. An analysis of these cases made by Evarts shows that lesions of the thalamus are more liable to occur in the later years of life. An early, severe and long continued emotional strain leaves the thalamus susceptible to future trouble. Lesions of the thalamus seldom exist alone. The presence of a partially recovered hemiplegia is not especially diagnostic of thalamic involvement. Sensory and motor disturbances over half the body point more certainly toward a lesion of the opposite thalamus. While the thalamic syndrome is characteristic if present, its absence does not indicate that the thalamus is intact. Hyperkinesis is not so constant as expected, and often it can be accounted for by the arteriosclerosis present, as well as by the simplification of the thalamus. However, no other mental phenomena are so constant as hyperkinesis and the emotional over response.

69. **Case of Anomalous Torsion Spasm.**—The patient whose history is given by Dercum was 33 years of age. He began to present symptoms first at 19 years of age and the latter did not reach their full development until some years later. The torsion is most pronounced in the cervical region. The patient is not Jewish. Finally, the case is complicated by epileptic seizures. Leaving the latter fact out of consideration, the thought arises that possibly this case is an unusual and bizarre outcome of a rotatory tic. In any event the case is not only anomalous but unique.

70. **Atypical Cases of Manic Depressive Insanity.**—Three cases are cited by Clark. All were subject to unusual oscillations of mood which in each individual became so marked that it was necessary to send her to an insane hospital. In the first, the reaction was colored by a slight paranoic tendency; in the second by paranoic and certain hysterical manifestations, and in the third by a paranoic make-up with a dementia praecox like mechanism. Each of the individuals was for a time in a state to which even the lay observer applied the term "insane." Had he studied and expressed his opinion of any one of the patients before the effective oscillation he might have used such descriptive terms as "queer," "fits of temper," etc., but he would not have considered the condition as one which was so closely akin to "insanity" as to need treatment. By a study of such cases one may gain a knowledge of the slighter indications of such types of reaction as paranoiac, dementia praecox, etc., which of themselves when exaggerated may lead to the need for institutional care. There is little hope that education in such cases may be attempted until there is a better understanding, both among the profession and the laity, of the prognosis in the different types of reaction. Clark believes that manic depressive attacks present certain advantages in the study of these types.

Kentucky Medical Journal, Bowling Green

May, XV, No. 5

71 Value of Blood and Urine Examinations in Diagnosis of Nephritis. C. W. Dowden, Louisville.—p. 191.
72 Plea for Compulsory Examination of Students' Boarding Houses and Colleges. V. A. Stilley, Benton.—p. 203.
73 Toxic Exhaustive Psychoses. W. E. Gardner, Louisville.—p. 206.
74 Nonpharmacal Remedies to Increase Efficiency Following Injury. J. J. Moren, Louisville.—p. 208.
75 Appendicitis. A. W. Cain, Somerset.—p. 214.
76 Proper Care and Treatment of Babies' Eyes. J. H. Thorpe, Owensboro.—p. 215.
77 Health Conditions in Pike County. W. J. Walters, Pikesville.—p. 219.
78 Health Conditions in Rockcastle County. A. G. Lovell, Mt. Vernon.—p. 219.
79 Some Things County Health Officer Should Do. C. E. Kidd, Paducah.—p. 220.
80 Cutaneous Horn; Report of Case. A. H. Barkley, Lexington.—p. 222.
81 Present Treatment of Puerperal Infection. J. F. Young, Monticello.—p. 222.
82 Life's Ideals. B. Overby, La Center.—p. 224.
83 Diagnosis and Treatment of Latent Nephritis. J. H. Hohnstedt, Fort Thomas.—p. 226.
84 Our Estimate of Prostatic. C. L. Wheeler, Lexington.—p. 227.
85 Consideration of Some of Present Problems of Syphilis. W. A. Pusey, Chicago.—p. 231.
86 Albee Method in Treating Pott's Disease. W. B. Owen, Louisville.—p. 239.
87 Stiff Joints and Their Treatment. F. Boyd, Paducah.—p. 241.
88 *Fractures In and Near Joints; Diagnosis and Treatment. A. D. Willmoth, Louisville.—p. 242.
89 Acute Urinary Retention from Ball Valve Action of Organized Blood Clot. C. G. Hoffman, Louisville.—p. 248.
90 Tonsils. R. Dade, Hopkinsville.—p. 250.

88. Abstracted in THE JOURNAL, Dec. 2, 1916, p. 1693.

Michigan State Medical Society Journal, Grand Rapids

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91 Social Insurance. F. B. Walker, Detroit.—p. 200.
92 Hemorrhage During First Half of Pregnancy. L. H. S. DeWitt, Kalamazoo.—p. 205.
93 Treatment of Wounds. R. C. Winslow, Sault Ste. Marie.—p. 209.
94 Hospital Organization and Management in Small Cities. A. O. Hart, St. Johns.—p. 212.
95 Two Cases of Vaginal Cesarean Section for Eclampsia. W. E. Welz, Detroit.—p. 216.
96 Treatment of Chronic Nephritis. N. B. Foster, Ann Arbor.—p. 217.
97 Two Cases of Pulmonary Tuberculosis Presenting Certain Possible Errors in Diagnosis. M. Marshall, Ann Arbor.—p. 221.
98 Transplantation of Thyroid Tissue. H. M. Malejan, Ann Arbor.—p. 222.
99 Relation Between Achlorohydria and Achylia. Q. O. Gilbert, Ann Arbor.—p. 225.
100 Review of Certain Pelvic Cases Showing Value of Vaginal Aspiration as Differential Diagnostic Procedure. H. Henderson, Ann Arbor.—p. 227.
101 After History of Patient with Inoperable Vesicovaginal Fistula where Rectal was Substituted for Vesical Sphincter. R. Peterson, Ann Arbor.—p. 232.

Northwest Medicine, Seattle

May, XVI, No. 5

102 Etiology of Poliomyelitis. H. Greeley, Brooklyn.—p. 129.
103 Id. E. Current and I. A. Smith, Spokane.—p. 134.
104 Progress in Poliomyelitis. J. B. Manning, Seattle.—p. 136.
105 Salpingitis. P. Rockey, Portland, Ore.—p. 141.
106 Treatment of Gonorrheal Pyosalpinx. G. S. Whiteside, Portland, Ore.—p. 143.
107 New Modification of Gastro-Enteric Anastomosis with Auxiliary Saddle Clip Splint. E. O. Houda, Tacoma.—p. 145.
108 Dermatitis Exfoliativa Secondary to Psoriasis. W. Brown, Tacoma.—p. 149.

Ohio State Medical Journal, Columbus

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109 Clinical vs. Laboratory in Syphilis Diagnosis. M. L. Heidingsfeld, Cincinnati.—p. 306.
110 Medicolegal Significance of Trauma as Etiologic Factor in Exophthalmic Goiter. H. H. Drysdale, Cleveland.—p. 310.
111 Effects of Obesity on Pregnancy and Labor. W. D. Porter, Cincinnati.—p. 316.
112 Pathology of Tuberculous Hip and What It Teaches. S. D. Foster, Toledo.—p. 318.
113 Some Graver Forms of Chorea. G. T. Harding, Jr., Columbus.—p. 320.
114 Diagnosis and Treatment of Paresis and Tabes with Special Reference to Application of Intradural Remedies. J. D. O'Brien, Canton.—p. 322.
115 Clinical Value of Fractional Analysis of Gastric Secretion. H. Feil, Cleveland.—p. 327.
116 Anchored Cast for Fractured Clavicle. R. R. Kahle, Columbus.—p. 329.

Rhode Island Medical Journal, Providence

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117 Present Status of Abdominal Cesarean Section. F. S. Newell, Boston.—p. 111.
118 Rupture of Urinary Bladder; Report of Two Cases. G. A. Eckert, Providence.—p. 116.
119 Appendicitis as Sequel of Throat Infections. A. Corvese, Providence.—p. 118.

Southern Medical Journal, Birmingham

May, X, No. 5

120 *Management of Early Stages of Hypertensive Cardiovascular Disease. W. S. Thayer, Baltimore.—p. 367.
121 Diagnosis of Pellagra. M. L. Graves, Galveston, Texas.—p. 377.
122 Treatment of Pellagra. J. W. Babcock, Columbia, S. C.—p. 379.
123 *Early Recognition of Pulmonary Tuberculosis. W. J. Durel, New Orleans.—p. 391.
124 Public Health Facts and Their Presentation. R. K. Flannagan, Richmond, Va.—p. 398.
125 Control of Contagious Diseases. C. V. Reynolds, Asheville, N. C.—p. 402.
126 Advances in Public Health Work in South Carolina During Past Year. J. A. Hayne, Columbia, S. C.—p. 406.
127 County Unit Plan in Public Health. M. M. McCord, Rome, Ga.—p. 408.

128 Hysterectomy for Fibroids. H. A. Royster, Raleigh, N. C.—p. 412.
129 Railway Surgeon of Today. S. Leigh, Norfolk, Va.—p. 417.
130 Differential Diagnosis of Surgical Conditions of Upper Abdomen. C. M. Rosser, Dallas, Texas.—p. 421.
131 Some Inconsistencies in Surgical Technic. J. S. Horsley, Richmond, Va.—p. 423.
132 Indications for Removal of Faucial Tonsils. A. B. Mason, Waycross, Ga.—p. 433.
133 Experiences with Beck-Mackuen Tonsil Operation. C. M. Miller, Richmond, Va.—p. 436.
134 Ophthalmologic Clinic. H. H. Briggs, Asheville, N. C.—p. 440.

120. **Hypertensive Cardiovascular Disease.**—The essential points in the treatment of hypertensive cardiovascular disease in its early stages are enumerated by Thayer as follows: The influences that are likely to aggravate a hypertension are undue mental or physical strain or excitement, heavy smoking, immoderate eating. These influences may best be eliminated by relatively simple physical and psychical means. Gain the patient's confidence, endeavor to encourage him, to relieve his fears and to make him appreciate that the essential thing in life for him is moderation in all things—eating, drinking, tobacco, mental or physical effort. Give the patient careful, detailed advice as to his daily habits. Search for and endeavor to remove local sources of irritation, errors of refraction, sinus disease, gastro-intestinal disturbances. Try to bring it about that he may take vacations of sufficient length and may learn to seize the opportunity for short interruptions in his life's routine. Teach him to take simple calisthenic exercises and encourage outdoor sports when his physical condition allows it. If such exercise be impossible or seem inadvisable, endeavor to arrange for regular massage and hydrotherapy. Do not attempt medically to treat hypertension in itself. Endeavor especially to prevent the patient from developing an undue interest in his own blood pressure.

123. Abstracted in THE JOURNAL, Dec. 23, 1916, p. 1967.

Texas State Journal of Medicine, Fort Worth

May, XIII, No. 1

135 Wrist Injuries; Operative Treatment. R. W. Knox, Houston.—p. 6.
136 Toxemias of Pregnancy. G. H. Lee, Galveston.—p. 11.
137 Operative Treatment of Fractures. R. L. Ramey, El Paso.—p. 15.
138 Renal Calculi. J. Becton, Greenville.—p. 17.
139 Abuse of Vaccines. I. S. Kahn, San Antonio.—p. 19.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

April XXI, No. 11

1 Roentgen Rays in Diagnosis of Chronic Appendicitis. R. T. Pettit.—p. 345.
2 After Technic of Opaque Meal. R. Knox.—p. 349.
3 Vesical Calculus and Calcified Hydatid Cysts. H. Harris.—p. 363.

British Medical Journal, London

May 5, I, No. 2940

4 *Intramuscular or Subcutaneous Injection of Neosalvarsan. L. W. Harrison, C. F. White and C. H. Mills.—p. 569.
5 Life History of Bacteria. E. C. Hort.—p. 571.
6 *Tetany and Functions of Parathyroids. D. N. Paton, L. Findlay, A. Watson, D. Burns, J. S. Sharp and W. Wishart.—p. 575.
7 Simultaneous Ligature of Arterial and Venous Trunks in War Surgery. E. M. Cowell.—p. 577.
8 *Effects of High Explosives on Ear. J. G. Wilson.—p. 578.
9 *Prevention of Pediculosis. J. A. Gunn.—p. 579.
10 *New Treatment of Bronchial Asthma. A. G. Auld.—p. 580.

4. **Subcutaneous Injection of Neosalvarsan.**—In order to compare the effects of the two methods the authors treated two parallel series of cases of syphilis (*a*) by intravenous injections of salvarsan (or "substitutes"), and (*b*) by deep subcutaneous or intramuscular injections of neosalvarsan (or "substitutes"). The results obtained by salvarsan agreed substantially with those by each of its substitutes and the same applies to neosalvarsan and its substitutes. The intramuscular or subcutaneous injection of neosalvarsan and its substitutes was found to be superior in immediate therapeutic effect to that of the intravenous injection of salvarsan and its substitutes. Spirochetes disappear from syphilitic lesions just as rapidly after the first intramuscular as after the first intravenous injection, and the Wassermann reaction is more quickly influenced.

6. **Tetany and Functions of Parathyroids.**—The authors say that the symptoms of tetany are due to some change in the nerve cells of the cord, and the increased excitability of the neuromyon is caused by an action on the nerve endings. A comparison of the symptomatology of idiopathic tetany, postoperative tetany in man, tetania parathyreopriva and guanidin poisoning in animals leads to the conclusion that all these conditions are of the same nature, and that the first three are due to the development of guanidin in the body as the result of some interference with the action of the parathyroids, which normally control the guanidin metabolism, and by so doing probably influence the tone of the muscles. There is a close association between idiopathic tetany in man and that following removal of the parathyroids; in both the symptoms are due to an increase of the guanidin in the body.

8. **Effects of High Explosives on Ear.**—The majority of cases reported on by Wilson were observed from twenty hours to a week after injury. Over 200 patients exhibited nerve symptoms ascribed to high explosives. Of these, fifty complained of deafness of varying degree. Of these fifty, seventeen showed demonstrable signs of injury to the internal ear traceable to the explosive. Of the others, the deafness in many had been temporary and no objective signs of disturbance of equilibrium could now be seen. The persisting defect of hearing was due in some to old middle ear inflammation, in others to blockage of the external canal from wax or some other cause. Of the seventeen cases, seven patients had symptoms of nerve deafness without perforation of the membrana tympani, ten had deafness with signs of recent perforation; six had definite middle ear trouble previous to the concussion; of the other eleven, with no previous history of ear trouble, six had recent perforation; twelve complained of vertigo and had observable signs due to it, the others had no complaints or symptoms of equilibrium disturbances.

Wilson concludes that: exposure to high explosives may produce rupture of the membrana tympani. The rupture in the membrana tympani tends in most cases to spontaneous closure. Concussion of the internal ear with nerve deafness and equilibrium disturbances occurs with or without rupture. The concussion may pass off leaving an injured nerve mechanism demonstrable by (*a*) nerve deafness of a varying degree; (*b*) defect of equilibrium. The treatment of recent perforated membrane which gives most satisfactory results aims at leaving the blood clot over the perforation intact. Wilson urges that all the cases ought to be kept in bed at least ten days to allow effects of the concussion to subside. High explosives may cause a definite injury to the ear and its central connections. Apart from such injuries there were frequently seen cases of deafness or ear disease in which removal to the base was unnecessary, and cases in which delay in treatment involved in transportation to the bases has aggravated the disease and delayed in the recovery. In such cases an otologist ought to be available.

9. **Prevention of Pediculosis.**—Gunn's plan is to dip the undervests, which are made of buttermuslin, in a solution of naphthalene and sulphur, 1 per cent. of each in benzol. The benzol evaporates in a few minutes and leaves the garments impregnated with sulphur and naphthalene in minute particles. Undervests so treated do not cause any irritation when worn next the skin, and they retained the naphthalene and sulphur sufficiently long for practical purposes. By this method those substances not merely are deposited on the surface of the garment, but actually penetrate the fiber. When benzol became unobtainable, the second grade of petrol was used instead. The latter does not seem to be quite such a good solvent, especially for sulphur; but in either case it is well to allow at least twenty-four hours for solution, the substances being used in fine powder. The solution can be made with sufficient accuracy by using an ounce and a half each of naphthalene and sulphur to 1 gallon of benzol or petrol.

10. **Treatment of Bronchial Asthma.**—This communication refers to a particular treatment which Auld has been applying in certain selected cases of bronchial asthma. The patients have been free from all disease, other than the bronchial affection, and although more or less emphysema and bronchial catarrh have been present, they have not been of a high degree, or such as to create dyspnea in the intervals of freedom (more or less) from the attacks. The method Auld employs is immunization by the subcutaneous injection of a water solution of peptone. To being with, ⅓ gm. of peptone dissolved in about 5 c.c. distilled water at blood heat is injected at an interval of three or four days during the first week. The next week two injections, each of ⅔ gm., are similarly given, and in the third week two injections of 1 gm. in 7 to 10 c.c. water. In certain cases this may be sufficient; severer cases may require 1 gm. weekly or biweekly for three weeks more. No apparent constitutional reaction follows, and, properly carried out, there should be little or no local reaction. In several cases of moderate asthma the symptoms have become perfectly quiescent, while others have greatly benefited. In one case three months have elapsed without any recurrence. Sometimes the effect is very rapid, the patient experiencing relief after one injection. In cases in which attacks of great severity occurred every two or three months, a few weeks' treatment beforehand has caused the attack to abort.

Journal of Laryngology, Rhinology and Otology, London

April, XXXII, No. 4

11 Cerebral Symptoms After Nasal Operations. St.C. Thomson.—p. 113.
12 Causation and Prevention of Educational Deafness. M. Yearsley.—p. 117. To be continued.
13 Lumbar Puncture in Mastoid Disease. A. Ryland.—p. 125.

Lancet, London

May 5, I, No. 4888

14 *Twenty-Five Cases of Tetanus. H. R. Dean.—p. 673.
15 *Intramuscular vs. Intrathecal Route in Treatment of Tetanus by Injection of Antitoxin. D. Bruce.—p. 680.
16 *Intrathecal Route for Administration of Tetanus Antitoxin. F. W. Andrewes and T. J. Horder.—p. 682.
17 *Comparison of Subcutaneous with Intravenous and Intrathecal Administration of Tetanus Antitoxin in Experimental Tetanus. F. Golla.—p. 686.
18 Statistical Note on Analysis of Cases of Tetanus in British Expeditionary Force. M. Greenwood, Jr.—p. 687.
19 *Bacillus Resembling B. Tetani. R. S. Adamson and D. W. Cutler.—p. 688.
20 Case of Tetanus Treated by Intrathecal and Intramuscular Injection of Antitoxin. J. Gow.—p. 689.

14. **Treatment of Tetanus.**—All the twenty-five patients whose cases are reviewed by Dean had had suppurating wounds, but in the majority of cases the wounds were not more serious, and the suppuration had not been more considerable than in the average case sent home to a hospital. In four cases the wounds were of a comparatively trivial nature. In nine cases the wounds at the time of the onset of tetanus had completely or almost completely healed. Dean states that if every wounded soldier, irrespective of the size or condition of the wound, was given a prophylactic injection on his arrival at home there would in all probability be a still further reduction in the number and severity of cases of tetanus. Compound fractures are a particular source of danger, and were present in eleven of twenty-five cases of tetanus. In three of the twenty-five cases the disease ran an extremely short and mild course. These were the only three patients who had received a prophylactic injection after their arrival in England. One result of prophylactic injection is to prolong enormously the incubation period, with the result that tetanus may occur after the wounds have completely healed, and the patient has been transferred to a convalescent hospital. Under these circumstances the earliest signs are readily overlooked. The pain associated with the early and local symptoms may lead to a diagnosis or rheumatism or muscular rheumatism.

The earliest signs may consist of clonic or tonic contraction of muscles in the immediate neighborhood of a wound, usually in the nearest flexor group. The signs may remain localized for many days, and it is characteristic of some cases occurring in inoculated patients that the period of onset is enormously prolonged. After a longer or shorter interval generalization occurs. The muscles of the jaw, neck and abdomen become stiff. There is profuse perspiration and the reflexes of the lower limbs are exaggerated. In many cases the pulse rate may be very rapid and the temperature normal. On the other hand, even in inoculated persons and after a very long incubation period, the disease may begin suddenly with spasm of the muscles of the jaw and neck. Of five mild cases treated by intramuscular and subcutaneous injections of serum five recovered. Of fourteen cases treated chiefly by intravenous injections thirteen recovered. Of five cases treated by intrathecal with or without other injections three recovered. One patient who was given an intravenous and subsequently an intrathecal injection died. If the signs are well localized and are not spreading rapidly, Dean says, intramuscular injections afford an adequate method of treatment. In severe cases, and in those in which signs are generalized, an intravenous injection (30,000 units) under deep chloroform anesthesia should be given. After such injection the further progress of the disease is usually arrested, and definite improvement may be expected two to seven days later.

The essential principle of serum treatment is to give a very large dose of antitoxin at the earliest possible moment. This object can be most easily attained by the intravenous route. In four cases serum treatment was confined to a single intravenous dose of 30,000 units. In three other cases no serum was given subsequent to the intravenous injection. In these seven cases recovery was as rapid as in six other cases in which subsequent injections were given. The serum of patients was shown to contain free antitoxin at various intervals up to thirty-nine days after an intravenous injection of 30,000 units.

15. **Tetanus Treated by Injection of Antitoxin.**—Experiments conducted by Bruce on monkeys exhibit the effect of a single injection of antitetanic serum on a single precurrent dose of tetanus toxin. They show a difference between the results obtained by the intramuscular and intrathecal methods respectively. The contrast seems sufficiently marked to be significant, although the experiments are at present few in number. The results are distinctly in favor of the efficacy of the intrathecal as against the intramuscular method.

16. **Intrathecal Route for Tetanus Antitoxin.**—Andrewes prefers the intrathecal route, but he would like to see the effect of really adequate doses (20,000 to 30,000 units) intrathecally given at the very onset of such cases.

17. **Tetanus Antitoxin in Experimental Tetanus.**—The results obtained by Golla in a series of animal experiments show the indubitable superiority of the intravenous and intrathecal routes over the subcutaneous. Such superiority is attributed to the slow absorption of tetanus antitoxin injected subcutaneously.

19. **Bacillus Resembling B. Tetani.**—In the course of the bacteriologic examination of cases of septic and gangrenous wounds Adamson and Cutler noticed on nine occasions in films, and have four times isolated, once from a blood culture taken after the death of the patient, an anaerobic bacillus closely resembling in appearance the *B. tetani*. Two of the four patients from whom the bacillus was isolated had developed tetanus. The bacillus is a strict anaerobe. It is characterized by the production of large terminal spores which are quite round. The average length of the bacillus is between 6 and 7 micron. In width it varies between 1 and 2 micron. These measurements do not include the terminal spore. The spore itself is quite round and varies from 1.7 to 2.2 micron in diameter. The bacillus is motile, but the movement is never rapid and quickly disappears in the presence of air. Old cultures do not show any motility. The bacillus grows well on agar and glucose agar. The organism ferments glucose, lactose and maltose with the production of a slight amount of acidity, but no clotting of the serum or gas production. Gelatin is not liquefied and no indol is produced in broth cultures. The bacillus is gram-negative, though young cultures, especially in broth, may be gram-

positive. Inoculations of pure or mixed cultures into guinea-pigs have failed to produce any symptoms suggesting tetanus.

Practitioner, London

May, XCVIII, No. 5

21 Gunshot Fractures of Arm. C. H. Fagge.—p. 491.
22 *Treatment of Secondary Hemorrhage. J. Taylor.—p. 413.
23 Convalescence of Dysentery and Its Complications. A. Howell. —p. 419.
24 Shell Shock Stammering and Other Affections of Voice and Speech. C. MacMahon.—p. 427.
25 Outbreak of Cerebrospinal Fever at Reading, 1915 to 1916. R. Donaldson.—p. 436.
26 Trench Fever—Mainly Its Clinical Manifestation. J. M. A. Costello.—p. 456.
27 Treatment of Septic Gunshot Fractures of Long Bones by Means of Steel Extension Appliances. R. E. Humphry.—p. 467.
28 Acidosis, with Special Reference to Children. F. Hewat.—p. 477.
29 Prostatic Enlargement and Its Treatment. J. H. Nicoll.—p. 487.
30 Continuous Counter Irritation as Therapeutic Measure in Rheumatoid Arthritis, etc.; Details of Technic. W. J. Midelton.—p. 491.

22. **Treatment of Secondary Hemorrhage.**—Beyond the ordinary cleansing and drainage of wounds, Taylor considers that little can be done to prevent secondary hemorrhage. Several of the medical officers, however, observed that bleeding seemed to be more frequent in cases in which sodium hypochlorite solutions was being used. There were more cases of hemorrhage from the wards where it was being used as a routine. Taylor suggests that it is possible that it has a digestive effect on the softened walls of the vessels.

Sei-I-Kwai Medical Journal, Tokyo

April, XXXVI, No. 4

31 Immunoreaction of Gonorrheal Patient Serum. T. Watabiki.—p. 19.

Bulletin de l'Académie de Médecine, Paris

April 24, LXXVII, No. 17, pp. 537-554

32 Organic Arsenic Associated with Quinin in Treatment of Malaria. A. Gautier.—p. 544.
33 Tardy Cephalic Tetanus with Postoperative Reactivation. G. Gross and L. Spillmann.—p. 548.
34 Trench Hemeralopia. Aubaret.—p. 552.

Journal de Radiologie et d'Electrologie, Paris

January-February, II, No. 7, pp. 433-496

35 *Localization of Foreign Bodies in the Eye. (Corps étrangers de l'oeil.) J. Belot and H. Fraudet.—p. 433.
36 Extraction of Foreign Bodies under Intermittent Screen Control. Sauvé.—p. 451.
37 Electricity in the Reeducation of Neuropathic Troubles in the Wounded. A. Laquerrière.—p. 459.
38 *War Wounds of the Nerves. J. Limouzi.—p. 468.
39 Electric Treatment of Cicatricial Adhesions. Drevon.—p. 475.
40 Advantages of Slow Interrupters in Radioscopy. A. Zimmern.—p. 479.
41 Exact Centering of the Tube Not Necessary for Roentgen Localization. G. A. Andrault.—p. 484.
42 Sliding Gage for Radioscopic Localization by Haret's Method. J. Tison.—p. 486.

35. **Localization of Foreign Body in the Eye.**—Belot and Fraudet emphasize the advantages of rapid radioscopy and of radiography in five positions according to a geometric system they have devised and here describe with twenty illustrations and a large plate. With this system they were able to locate minute scraps even of aluminum, stone or glass, which are relatively transparent for the Roentgen rays. In one instance Belot thus localized a fragment from a test tube; the particle of glass was 1 mm. long by ½ mm. wide and thick. They say localization with the stereoscopic technic is possible only when the eye is incapable of any movement. The preliminary radioscopic examination, after the patient has sat for twenty minutes in the absolutely dark room, serves to locate the foreign body in one quarter of the orbit and may locate it with sufficient precision. If not, they proceed to radiography. As the eyeball revolves on its transverse or vertical axis, if the foreign body changes its place proportionally to the displacement of the periphery of the eyeball, then the foreign body must be in the eyeball itself or the muscles in contact with it. If the foreign body is in the parts outside of the eyeball, its displacement with different movements of the eyeball occurs according to geometric principles. Study of the type of displacement shows at once the muscle involved. In twenty-five cases in which this technic has been applied the foreign body was found exactly at the point in the operative cases. An error of a few millimeters in localization would be negligible elsewhere, but the eye is unable to stand any groping. Even with intermittent screen control, compasses, etc., we have no guarantee of success, but the system here described is incapable of failing, it is asserted, provided the eyeball is movable and vision is not lost in the other eye. All that is required is to outline a curve, drawing the outline on transparent paper placed over the five radiographs in turn. The tracing thus obtained locates the foreign body with precision.

38. **War Wounds of the Nerves.**—Limouzi declares that after a war wound of the nerve has healed it should be given three months of thorough medical treatment, massage, hydrotherapy, mechanotherapy, electricity, hot air, etc. Then if the clinical signs are growing worse or are stationary while the reaction of degeneration is growing worse, or this is stationary while the clinical symptoms are growing worse, then operative measures are called for. They are optional when both are stationary, but it is better to refrain from operative measures if one or the other or both are improving or if only one is stationary. The final outcome after suture of a nerve is still somewhat dubious, but the favorable results after freeing a nerve from compression by cicatricial tissue, etc., are beyond question. He exclaims that as the wounded have no desire to return to the firing line as a rule, and often are not particularly interested in regaining full earning capacity, this "inhibition of good will" handicaps treatment of neuropathies in many cases. He says that he has had only about a dozen in all among his cases of this kind in which the men devoted all their energy, will power and courage to get cured as quickly as possible.

Lyon Médical

April, CXXVI, No. 4, pp. 157-204

43 *Sudden Death from Nervous Phenomena of Pleural Origin. Piéry. —p. 157.
44 Treatment of Capillary Bronchitis in Infant by Inhalation of Steam. H. Rondet.—p. 164.
45 *French Pharmaceuticals. B. Lyonnet.—p. 195.

43. **Sudden Death from Nervous Phenomena of Pleural Origin.**—The man's chest had been pierced by a bullet. It had entered at the base of the neck on the right side and emerged at the lower part of the posterior thorax, between the middle of the margin of the scapula and the spine. There was no hemoptysis nor oppression, merely a slight rise in temperature for a week, and signs of a small hemothorax with probable pneumothorax. The sixteenth day the respiration transiently became accelerated, the pulse still normal. The man then lost consciousness, with stertor and anal incontinence, and he died in half an hour. Necropsy revealed that the bullet had fractured the fourth rib, a small piece falling back like a hinge into the pleural cavity. Whether the fatality was due to a pleural reflex or gaseous embolism—the only plausible explanations—it teaches the lesson that after a wound of the chest the man should be kept in bed for weeks. Also the wisdom of a preliminary injection of morphin to ward off danger of a possible pleural reflex action in the course of inducing an artificial pneumothorax, or when a man wounded in the chest has to be moved. In this case the first symptom of trouble—the acceleration of the respiration—was observed as the man was placed on a litter and wheeled into another room for roentgenoscopic examination. It was applied reclining. The man died in half an hour after his return to bed.

45. **French Pharmaceuticals.**—Lyonnet refers to the international exposition of articles of all kinds that has been held twice at Lyons since the war began. At the first of these "foires d'échantillons" there were only nine firms exhibiting pharmaceutical products of domestic manufacture, but this year thirty-two firms exhibited chemical, medical and pharmaceutical products. He enquired of each exhibitor what he was making new, and whether he was producing any pharmaceuticals formerly imported. The responses, he says, were interesting and encouraging for the future as he describes in

detail. "Benzonaphthol has been scarce; at one time none could be procured, but now it is being produced in large quantities. A number of preparations, arsenobenzol, novarsenobenzol, allocaine and other equivalents for drugs formerly imported show," he reiterates, "that French manufacturing chemists are trying to make up for their forty years of neglect of this field, although certain firms are devoting their entire output to the chemicals needed for munitions, and others are afraid to venture too much."

Paris Médical

April 21, VII, No. 16, pp. 309-324

46 *Amebic Dysentery of Suprarenal Type. R. D. de La Rivière and Villerval.—p. 310.
47 Case of Supposed Gonorrheal Meningitis. A. Blind and R. Ricard.—p. 312.
48 Radiogram Showing Four Months Fetus in Utero. E. A. Weil.—p. 314.
49 War Wounds of Urinary Organs. M. Devroye.—p. 315.

46. **Suprarenal Form of Amebic Dysentery.**—Rivière and Villerval report a case of amebic dysentery which developed in successive "pushes," the second being much more serious than the first. The special feature of the case was the evident injury of the suprarenals, the weakness being extreme, with very low blood pressure and white dermographism. The ameba evidently produces some toxin that makes its influence felt on the suprarenals in particular. They say that emetin should be begun early in amebic dysentery and continued long after the disappearance from the stools of the ameba and especially of its encysted forms. With suprarenal manifestations epinephrin is indicated, its action here being as pronounced as in microbian infections.

Presse Médicale, Paris

April 12, XXV, No. 21, pp. 209-216

50 *Examination of Coagulating Power of Blood as Preliminary to Operations. P. E. Weil.—p. 209.
51 Malarial Fever Consecutive to Relapsing Fever. Duchamp.—p. 210.
52 Cutting One Stump to Form Peg to Slip into Other Stump. (Autoenchevillement.) J. Calvé.—p. 212.
53 The Therapeutic Element in Action of Dakin's Solution. (La chloramine.) B. Desplas and A. Policard.—p. 213.

50. **Determination of Coagulating Properties of the Blood as Aid in Surgery.**—Weil remarks that certain complications following operations seem to be the consequence of abnormal conditions of the blood permitting hemorrhages or thrombosis. Aside from hemorrhage due to defective technic, really menacing hemorrhage occurs only with liver disease or a tendency to hemophilia. Postoperative thrombosis is rare, and is encountered as a rule only after certain special operations, such as removal of the appendix or of a uterine fibroma. It occurs without infection and in the fibroma cases only when there has been much loss of blood before. He insists that it is possible to detect the predisposition beforehand by determining the coagulating power of the blood. The physician should inquire as to the personal and family history in respect to hemophilia and thrombosis, with examination of the skin for traces of extravasation, phlebitis, etc., and test the coagulating time of the blood by distributing a little blood in tubes of a uniform caliber. This is generally instructive enough for the purpose.

But the actual coagulating power of the blood must be determined. For this he applies M. Bloch's coagulometric technic: 1 c.c. of blood from a vein is drawn into 4 c.c. of an isotonic solution (sodium citrate 1 gm.; sodium chlorid 7 gm. and distilled water 400 c.c.). A set of test tubes contains from 4 to 3 c.c. of an isotonic solution of sea salt (seven per thousand). To each of these tubes is added a 5 per cent. solution of calcium chlorid in amounts of 0.1 c.c.; 0.2 c.c.; 0.3 c.c.; 0.4 c.c., and 0.5 c.c. Then 0.2 c.c. of the citrated blood is added to each tube. Each should contain 4 c.c. of fluid. In twelve to fifteen hours, the coagulation process is complete. The citrate prevents the blood from coagulating by inactivating the calcium in the blood. Adding traces of calcium restores the coagulating power. He estimates this by the ratio between the amounts of calcium and of citrate: Control tube 1, no calcium; tube 2, 4; tube 3, 2; tube 4, 1.33; tube 5, 1; tube 6, 0.8. Time is not regarded. In normal conditions, coagulation begins in tube 3, index 2 (threshold of coagulation), and finishes in tube 5, index 1. In children under 10, it usually begins with index 4 and ends with index 1.33. With a predisposition to hemorrhage, both threshold and finish are retarded. This technic reveals also any excessive tendency to coagulation. Further information can be obtained by pricking the ear with a lancet and counting the half minutes before the blood stops spontaneously. With blood drops 1 cm. in diameter, hemostasis occurs normally in from two and a half to three and a half minutes. The physiologic or pathologic condition of the capillaries is revealed by slight constriction of the arm, such as is applied for venesection, which may induce a punctate hemorrhagic appearance below, showing that the capillaries are extra fragile.

To profit by the information derived from these tests, he advises subcutaneous injection of 20 or 40 c.c. of normal human or animal blood serum when the blood does not coagulate normally. This corrects conditions in acquired hemophilia so that operative hemorrhage need not be feared. But with familial hemophilia, the operation should be postponed until the condition can be corrected by injections of blood serum every two months for a year. It is thus possible to modify the blood so it will coagulate in thirty or forty-five minutes, instead of three, six or twelve hours as before. Calcium chlorid by the mouth or in injections has never improved the state of the blood, in his experience. The type of blood anomaly in which coagulation is not much retarded, but there is no retraction of the clot, is the substratum of a true hemorrhagic diathesis, sometimes inherited. The hemorrhages are more liable to occur spontaneously than with hemophilia, as in acute purpura. Weil gives a subcutaneous injection of 20 or 30 c.c. of human blood forty-eight hours before the operation. This supplies the hematoblasts which are lacking in these cases. It is useful likewise in the hemorrhagic tendency with liver disease.

When the tests show excessive coagulability of the blood, thrombosis menaces, and ether and chloroform should be avoided as they injure the blood and may bring on thrombosis. In such a case blood serum should never be injected, and it must be remembered that losses of blood enhance the coagulating power of the blood. The blood can be rendered less coagulable by citric acid. Chantemesse prescribes it in the daily dose of 12 or 18 gm. of citric acid diluted in a large amount of water. Weil adds that sodium citrate in similar doses might answer the purpose. Subcutaneous injections of saline or glucosed isotonic physiologic solution might be useful, or a 47 per thousand solution of sugar by the drip method. In conclusion he remarks that it seems logical to utilize the anticoagulating action of herudin, the active principle of the heads of leeches, but he does not know of its application in the clinic.

Progrès Médical, Paris

April 14, XXXII, No. 15, pp. 123-130

54 Psychotherapy in Wartime. G. L. Duprat.—p. 123. Commenced in No. 14, p. 113.
55 Pathogenesis and Treatment of Ciliary Blepharitis. A. Cuénod.—p. 125.

April 21, No. 16, pp. 131-138

56 Deformity of the First Left Rib. A. Clerc, R. Didier and J. Borrie.—p. 131.
57 Mencière's Iodoform-Balsam Mixture for Wounds on the Firing Line. Delestre.—p. 133.
58 Intravenous Injections of Colloidal Sulphur in Treatment of Chronic Articular Rheumatism. G. Jeanneney.—p. 134.
59 Phosphorus Alleged to Have Certain Properties of Radium. F. de Courmelles.—p. 136.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 21, XLVII, No. 16, pp. 481-512

60 *Influence of Loss of Certain Organs on Development of Experimental Teratoid Tumors. A. Katase.—p. 481.
61 Iontophoresis of Heavy Metals. H. Koller.—p. 485. To be continued.

60. **Experimental Teratomas.**—Askanazy has previously reported the results of his experiments in the production of tumors in rats by injection of a suspension of macerated fetal tissues. Katase here reports further series in this line of

experiences, but the rats had had previously the spleen or one kidney removed or both testicles or the thyroid. He also used rats with goiter. Among the conclusions tentatively drawn from the results observed are that the spleen seems to favor the growth of fetal tissue while it checks the growth of transplanted rat cancer tissue. No influence from the testicles in either direction was apparent. Removal of one kidney seemed to promote the growth of the teratoid tumor.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 29, XXXVIII, No. 25, pp. 385-400

62 *Variety of Initial Symptoms with Epidemic Cerebrospinal Meningitis. G. Pisano.—p. 388.

April 1, No. 26, pp. 401-416

63 *Abscess in Preperitoneal Cavity. G. Onano.—p. 401.

62. **Mistakes in Diagnosis of Epidemic Meningitis.**—In the first of the three cases related, the symptoms at first indicated merely a traumatic purulent ophthalmia suggesting danger of involvement of the meninges. In the second case, malarial fever, probably of the pernicious type, was diagnosed, and in the third, left purulent otitis media, threatening likewise involvement of the meninges. All these patients complained of intense headache, but at different points in the head; dermographism was pronounced and the temperature high. Pisano exclaims that these three symptoms alone should have suggested the proper diagnosis or at least have called for lumbar puncture to aid in differentiation. The first and third patients recovered but the second died. His disease had run along for four days without suspicion of meningitis, and hence without specific serotherapy. Baccarani has recently published some cases of what he calls *meningite ritardate*, in which the symptoms at first led to the diagnosis of typhoid or rheumatic sepsis. There was intense headache in all his cases, but as it was not restricted to the back of the head, it was not ascribed to meningitis. In Pisano's cases the meningitis was not suspected until the sixth, fourth or fifth day of the disease.

63. **Abscess in Cavity of Retzius.**—Onano comments on the difficulty of differentiating an abscess in the preperitoneal cavity, as it suggests various abdominal affections. In the case reported the abscess was secondary to one in the right foot. The intervening lymphatics showed nothing pathologic.

Policlinico, Rome

April 22, XXIV, No. 17, pp. 537-568

64 *Immediate Intervention for War Wounds. G. Pisano.—p. 537.
65 Bridge Plaster Casts for Compound War Fractures. A. Ascarelli.—p. 545.
66 Abscess of the Spleen. G. Morelli.—p. 550.

April, Medical Section No. 4, pp. 145-188

67 *Case of Cerebrospinal Sclerosis. A. Murri.—p. 145. Commenced in No. 3, p. 97.
68 War Wounds of Brain and Spinal Cord. G. Mingazzini.—p. 172. Continuation.

64. **Immediate Intervention for War Wounds.**—Pisano advocates the definite operation at once, deprecating the old way of first aid, then new examination and dressing by each surgeon through whose hands the wounded man passes in the clearing station, on the train and in the base hospital. He knows of instances where the wound was thus dressed five times within twenty-four hours. In his service now, close to the firing line, 3,171 wounded have been given treatment at once, including 172 extremely severely wounded. The mortality was less than 3 per cent. Thorough surgical treatment was applied in 9 per cent. He comments on the ease with which projectiles can be extracted when this is done at once, before they have had a chance to sink by gravity deep into the tissues. In one case a large clot of dirt had been driven completely into the left thigh. In only 399 cases had the wounds been made by bullets. Among the advantages of the early definite operative treatment are that there is no need then to rush the patients away. The benefits are so great for the wounded that they outweigh the danger of being shelled occasionally.

67. **Case of Cerebrospinal Sclerosis.**—Murri devotes about fifty pages to this case as the patient was under attentive observation in the clinic for six years, and the necropsy findings confirmed the diagnosis in every respect. The sphincters were normal throughout, which was explained as the corresponding part of the spinal cord was found apparently intact. A plate of microphotographs is given, and the incompleteness of the symptoms is emphasized. Although the trouble was of ten years' standing, yet there was no complete paralysis of any nerve, no complete atrophy of any muscle. The absence of pains, paresthesias, sensory hallucinations, convulsions and vertigo can be explained only by the extreme slowness of the process. There were no waves of improvement at any time such as are generally observed with such affections. The case teaches further that it is not necessary to wait for pronounced symptoms for the diagnosis. The tremor of the tongue, partial facial paralysis, the peculiar monotonous tone of voice, the scanning speech and the absence of the pharyngeal reflex persisted unmodified during seven years or more. No other affection but multiple sclerosis would induce such slight modifications as these but so persistent and so insidious. Murri suggested in 1911 that the basis of multiple sclerosis might be a "diathesis of connective tissue." The fibrosis in this case seemed to have spared completely the thyroid, pituitary body and the suprarenals.

Riforma Medica, Naples

April 7, XXXIII, No. 14, pp. 365-392

69 The Profession after the War. (Il "dopo guerra" per i medici.) L. Ferrannini.—p. 365.
70 Influence of Vaccination on Course of Typhoid and Paratyphoid. P. Guizzetti.—p. 366. Commenced in No. 13, p. 338.
71 Traumatic Fibrous Growth in Joint. (Della cellulo-dermite autocontusiva degli arti.) A. Mori.—p. 371. To be continued.
72 *Case of Pneumococcus Peritonitis. C. R. Belgrano.—p. 378.
73 Welfare Work for Tuberculous Soldiers. (Per i feriti della tubercolosi.) A. Ferrannini.—p. 381.

72. **Pneumococcus Peritonitis.**—The girl of 13 had presented abdominal symptoms for ten days, with pain, fever, pulse 120, diarrhea and scanty urine, but agglutination tests were negative and the blood seemed to be sterile. An exploratory puncture showed pus and pneumococci in the peritoneum, and it was cleaned out through a median laparotomy, after which prompt recovery followed. The abdominal symptoms had been preceded by coryza and labial herpes, but otherwise the girl had been in good health and she has been well since.

Brazil-Medico, Rio de Janeiro

April 7, XXXI, No. 14, pp. 113-120

74 Endamebas of Dysentery. H. de B. Aragão.—p. 113. Conclusion.
75 Itch. (O micuim.) E. von Bassewitz.—p. 115. To be continued.
76 *Heliotherapy in Brazil. A. Moncorvo, Jr.—p. 116. Conclusion. Commenced in No. 5, p. 37.

76. **Heliotherapy in Brazil.**—Moncorvo gives a long list of Brazilian physicians who have been systematically utilizing sun baths in treatment and prophylaxis of late years, and describes his own experience in the special service for heliotherapy which has been added to the dispensary connected with the Instituto de Protecção e Assistencia of Rio de Janeiro. The extremely gratifying results already achieved with it, he says, encourage wider extension of the scientific application of sun baths in a long series of affections, particularly in tuberculosis of the bones, skin diseases, atonic ulcers and secondary anemia of various origins. He relates that heliotherapy dates from antiquity, the Egyptians practicing it among others. In modern times Sydenham was the great precursor of Finsen, but Bonnet of Lyons, in 1845, demonstrated the benefit from sun baths in tuberculous bone affections. Moncorvo mentions, along with Rollier and Turck, Monteunis and Byssaia-Barreto as having published notable works in recent years on heliotherapy.

Cronica Medica, Lima, Peru

March, XXXIV, No. 645, pp. 77-116

77 Arequipa Mineral Springs in Peru. (El balneario de Jesus.) E. Escomel.—p. 80.
78 Abortive Case of Adams-Stokes Syndrome. E. Odriozola.—p. 92.
79 Case of Malta Fever in Peru. J. M. Chiriboga.—p. 98.
80 *Clinical Study of Uremia. (Azohemia.) M. A. Schreiber.—p. 100.

80. **Uremia.**—Schreiber remarks that pruritus may be the first symptom to attract the patient's attention to the reten-

tion of nitrogen in the blood, but usually the uremia merely accompanies retinitis, somnolency, digestive and other disturbances pointing to the chronic nephritis. In one of his patients the reds numbered only 1,680,000 and the whites 7,000; he had profuse hemorrhages from stomach, nose and lungs. The urea content of the blood was 3.1 and 4.06 gm. at a two week interval. Two other patients had pericarditis in the course of severe uremia, but it was a necropsy surprise in one case and in the other was detected in the course of clinical examination, not having caused any appreciable symptoms. The blood contained 4 gm. of urea. The close connection between the uremia and the high blood pressure was evident in all but two of his cases of chronic nephritis.

Prensa Medica Argentina, Buenos Aires

March 30, III, No. 30, pp. 317-328

81 Mental Disturbances with Heart Disease. M. R. Castex and J. C. Vivaldo.—p. 317. To be continued.
82 Answer to Criticisms of Normal Beef Serum in Serotherapy of Anthrax. R. Kraus, J. Penna and others.—p. 318.
83 Spontaneous and Transmissible Tumor in White Rat. A. H. Roffo.—p. 320.
84 The Oculocardiac Reflex. S. B. Amadeo.—p. 323. Continuation.

Semana Medica, Buenos Aires

March 15, XXIV, No. 11, pp. 315-342

85 Nematode Parasite of the Frog. S. E. Parodi.—p. 315.
86 Gastrulation in Mammals. M. Fernandez.—p. 318.
87 Prophylaxis of Venereal Diseases. J. A. Lopez.—p. 321.
88 Welfare Work for Young Infants. (El problema de la tutela higienica de la primera infancia.) E. Cacace.—p. 331.

Siglo Medico, Madrid

April 21, LXIV, No. 3306, pp. 265-284

89 *Aspiration Technic for Extraction of Cataract. I. Barraquer.—p. 266.
90 Intraspinal Treatment of Syphilis of the Nervous System. G. R. Lafora.—p. 267. Continuation.
91 Present Status of Plastic Surgery. Goyanes.—p. 278. Commenced in No. 3304, p. 226.

89. **Vacuum Aspiration Extraction of Cataract.**—Barraquer emphasizes that anatomically speaking a cataract is a cyst, and should be treated as such. He uses for extraction of the cataract a little device that acts on the principle of a cupping glass. It is applied directly to the cataract, with aspiration from an electric motor, the vacuum aspiration under complete control. Any kind of cataract, he says, can be extracted in this way gently and absolutely thoroughly, even the minutest scraps of opaque tissue coming away, and all without the least pressure on the eyeball or vicinity, and without the necessity for introducing any sharp instruments inside the eyeball. He has applied it for thirty-three ripe senile cataracts, twenty-four not yet ripe, and five overripe, and also was able to extract by this means a scrap of glass inside the lens in one case. The success was prompt and complete in every case but two; in these the capsule had been lacerated before so that aspiration could not proceed according to the normal technic. He suggests that it might be possible by this means to improve the lens in cases of extreme myopia. With cataract, he adds, there is no need to wait for it to ripen.

Russkiy Vrach, Petrograd

XVI, No. 4, pp. 73-96

92 Pathogenesis of Addison's Disease. A. I. Yushtchenko.—p. 73. To be continued.
93 Expediency of Ligating Vein in Operating on Wounded Artery. (O . . . perevyazki . . . veni pri prekrashtchenii toka krovi v. . . arterii.) V. N. Savvin.—p. 78.
94 *War as the Struggle for Existence of Nations. G. M. Yusifoff. —p. 80. Commenced in No. 3 p. 49.
95 *Benzin for Isolation of Typhoid Bacilli. V. I. Nedrigailoff.—p. 83.
96 Etiology of Gas Phlegmon. A. E. and V. E. Burovikh.—p. 84. To be continued.
97 Experimental Cholesterinemia and the Disturbances It Induces in the Organism. N. N. Anichkoff.—p. 89. To be continued.

94. **War as the Struggle for Existence of Nations.**—Yusifoff discusses the causes of war from the standpoint of biology, as also the question of the possibility of perpetual peace.

95. **Benzin in Isolation of Typhoid Bacilli.**—Nedrigailoff comments on the tendency of physicians to keep in the hospitals unduly long those convalescing from cholera, typhoid and dysentery for fear that they may develop into carriers. It would be better from every point of view to be able to sift out the carriers by early and repeated bacteriologic examination. This is possible with cholera, as only cholera vibrios grow luxuriantly in peptone water. But until lately, he says, we have not had any reliable means to differentiate typhoid germs in the stools of carriers. The various technics to date can be applied only to minute quantities of the material, and this minute quantity may not happen to contain any of the germs. This renders extremely interesting the technics proposed comparatively recently which permit the use of large quantities of stool. One of these is Vasilevsky's application to feces of the method of detecting typhoid bacilli in water by addition of an agglutinating serum. By this means he never failed to find typhoid bacilli in the stools when any were to be found in the blood.

Bierast differentiates typhoid and colon bacilli by their different response to the action of benzin, and Nedrigailoff has found this surprisingly effectual in permitting the growth of typhoid bacilli from the stools of typhoid patients and convalescents while the proliferation of other bacilli seems to be checked by it. A mixture of equal amounts of cultures of typhoid and of colon bacilli in a little bouillon were mixed with an equal volume of benzin and kept at room temperature for fifteen hours. Endo agar was then inoculated from the mixture. The control dishes showed the usual colonies of colon bacilli growing luxuriantly, while in the benzin dishes there were only a few scattered colon bacilli colonies in the midst of numerous colonies of typhoid bacilli. Hall, Schusch and others have confirmed Bierast's statements.

Nedrigailoff used 3 or 2 c.c. of benzin to 7 or 8 c.c. of the mixture of stools and bouillon (in the proportion of a teaspoonful of feces to 2 c.c. of bouillon). Success depends on the lively and long continued shaking up of the small vial. It is shaken up vigorously by hand for five or ten minutes, and then this is repeated after an interval of fifteen or twenty minutes. The vial is then set aside, protected from the light, for eight or ten hours, at room temperature. The material to inoculate the Endo agar in the Petri dish is taken from the sediment with a Pasteur pipet. He applied this technic also in differentiation of the *Staphylococcus aureus*, the proteus and the pyocyaneus. The proteus was the only one of these that showed any growth by the tenth hour; the others showed none until after the twentieth. The test was applied to stool from ten persons who had recently passed through typhoid. Typhoid bacilli were thus detected in three cases, paratyphoid B in one, and the findings were negative in the others. Control tests confirmed these findings.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

March 24, I, No. 12, pp. 881-976

98 *Familial Splenomegaly of Gaucher Type. C. De Lange and J. C. Schippers.—p. 890.
99 Varying Efficacy of Ergot Preparations from Different Sources. (Secale-praeparaten.) W. S. van Leeuwen.—p. 904.
100 *Isolated Traumatic Paralysis of Suprascapular Nerve. G. C. Bolten.—p. 913.
101 *Chronic Essential Pruritus Cured by Cold Sponging. (Hydrotherapeutische behandeling van een geval van huidjeuk.) J. C. Mom.—p. 918.

98. **Familial Splenomegaly of Gaucher Type.**—This article states that the two operative cases reported bring to twelve the number of cases of Gaucher's splenomegaly on record in which the spleen was removed. Nine apparently recovered after the splenectomy, that is, 75 per cent., although in the two cases reported here only about three months have elapsed since the operation. Of the seven children in this family, one died at the age of 2, probably a case of the same affection, and the second child, a girl, an unmistakable case, succumbed at 11 to gastric hemorrhage. The sixth and seventh children, girls over 7 and 5, presented typical cases and improved after splenectomy to such an extent that they are listed as cured. The left lobe of the liver was materially enlarged in the three cases. The spleen in the two operative cases showed deep clefts; in one so deep as almost to divide it into lobes. The microscopic findings differed from those on record, pos-

sibly because the disease was in an earlier phase. The literature on the subject is reviewed, and it is emphasized that splenectomy is the only measure that offers the least chance of a cure so far as is known to date. No benefit has been reported from roentgenotherapy, iron or arsenic. The spleen in some of the cases on record weighed from a fifth to a half as much as the whole body, but one of the spleens in the personal cases here reported was the smallest on record (170 gm.), and the other (470 gm.) the third smallest. Several American cases are included in the list. The latest of the cases (1914) summarized was in a boy of 14; the spleen weighed 1,320 gm. Its enlargement had been verified by a physician nearly eight years before.

100. **Isolated Paralysis of the Suprascapular Nerve.**—The young man had fallen in playing tennis, striking on his right elbow and knee. There was some pain in the shoulder for a time but it then subsided and the only disturbance left was difficulty in writing. The young man had had syphilis but it has been apparently thoroughly treated and the Wassermann reaction was negative. The symptoms indicated an isolated paralysis of the suprascapular nerve innervating the supraspinatus and infraspinatus muscles, with some atrophy of both. Two years after the accident the man was able to write only when standing at a desk, the arm extended to the utmost and raised up forward. Any attempt to lift up the arm sideways caused spasms in the upper arm. Electric high frequency treatment brought some improvement then, but the long interval precluded much benefit from any treatment.

101. **Hydrotherapy for Essential Pruritus.**—Mom's patient was a robust man and the pruritus was so severe that it kept him awake at night. Exclusion of all causes showed it to be chronic true pruritus of the skin. No benefit was derived from the whole array of dermatologic and other measures until, as a last resort, the man was told to sponge his whole body with cold water every morning on rising; then, without waiting to dry himself, to get back into bed and stay there until thoroughly warm. In a week of this simple hydrotherapy the man was cured. The pruritus that had tormented him for years, subsided completely and there has been no recurrence during the six months to date. Mom explains the striking effect in this and similar cases as due to the vasoconstriction from the cold water, followed by the dilatation from the warmth in bed, modifying the vasomotor nerves and possibly aiding in the expulsion of irritating substances in the sweat glands.

Hospitalstidende, Copenhagen

April 18, LX, No. 16, pp. 369-392

102 *Carcinoid Tumors of the Appendix. P. V. Tuxen.—p. 369.

102. **Tumors in the Appendix.**—Tuxen refers to tumors which resemble cancers in appearance but their course is benign. Since Letulle's first description, in 1897, about 250 cases have been published. The average age is between 20 and 30, but Mayo found a tumor of this kind in a girl of 5, and Elting in a man of 81. Tuxen has encountered eight cases of cancer in the appendix and only three typical carcinoid cases; he describes the whole eleven cases in detail. The cancers were in four men, 19, 20, 34 and 38 years and four women between 22 and 27. The three carcinoid patients were men of 18, 21 and 48. The appendix was removed in each case for acute or chronic appendicitis. In four other cases a small tumor was found in the small intestine after death from other cause, and the microscopic findings in these tumors seemed to be identical with those in the appendix carcinoid cases. He reproduces the microscopic findings in one case, and reviews the literature on this type of nonmalignant submucosa tumors in the appendix and small intestine.

Hygiea, Stockholm

April 16, LXXIX, No. 7, pp. 321-368

103 *Simulation and Aggravation of Morbid Conditions in Relation to Insurance, Workman's Compensation, Escaping Military Service, etc. F. Klefberg.—p. 334.

103. **Feigned Sickness and Factitious Affections.**—Klefberg expatiates on the way in which factitious affections are becoming every day more and more important as legislation on social insurance, workmen's compensation, etc., is constantly extending its scope, to say nothing of affections induced to escape military duties. He quotes Collies' remark: "To most medical men, simulation of disease presents a difficult, almost an insoluble puzzle." He urges the training of specialists in this line, commenting on the importance of unmasking the first case, as otherwise a crowd of imitators follow. Training is especially necessary in affections of the eye, ear and nervous system which are most often reproduced by malingerers. Training is also necessary to keep from seeing a malingerer in every claimant for an indemnity. He cites two typical cases to show the ease with which physicians are hoodwinked, and describes a number of tests useful to disclose simulation. They include Müller's suggestion to test the alleged tender point with a second finger applied so near the first that the subject gets only one impression from them. Alternating the pressure permits control of the patient's statements. With much tenderness or severe pain, the pulse is liable to become accelerated, the face flush or grow pale, or the pupil dilate or contract. Klefberg has seen this occur not only with pain in the limbs, lumbago, etc., but also in appendicitis, pleurisy and neuralgia. Applying the induced current may prove instructive, telling the patient that the pains will be increased when the electrode reaches the painful area, but shutting off the effective current without his knowledge. When told to stoop over from the hips the malingerer usually holds his spine straight and stiff, while there is always a curve in the natural spine at the neck, even with lumbago, sciatica, etc., inducing incurvature lower down. The pain with sciatica is increased by lifting the other leg to a right angle or otherwise moving it, but the simulator never thinks of complaining of pain when the sound leg is exercised. With true sciatica, standing with both soles flat on the floor, the heel on that side is lifted during a squatting exercise. Illustrations are given of these and a number of other tests. If the findings are negative with even those summarized here, the suspicion of simulation is justified.

A sympathetic understanding with the patient is important although the possibility of malingering must be borne constantly in mind. Instructive data may be obtained by watching how the patient comes into the room, sits down, disrobes, etc., before the actual physical examination. No relative or friend must be with the patient; if he insists on having an outsider with him, the physician must insist on its being some impartial person, possibly a representative of the party financially involved. Neglect of this precaution is liable to have disagreeable consequences, if nothing more than complaints of "brutal handling." Klefberg warns further that the subject is very liable to mix in with the symptoms he is having an account of those he has had, thus obscuring a clear picture of the status presens. The importance of refraining from questions liable by suggestion to influence the answers cannot be reiterated too often. Disrobing, especially taking off the shoes and stockings, must be done without help, and all bandages removed. For examining the legs or feet, the patient should stand on a stool, stepping up with the affected leg first.

The more honest the patient, the clearer and prompter his replies. The malingerer either has an overprofuse flow of words or is unusually taciturn. A difference is also manifest in the way they locate the pain or tenderness. The honest subject places his finger directly on the spot and usually presses on it for a moment or longer; the malingerer points with a circular movement that includes quite a large area, seeming to avoid contact with the skin. He may also writhe when the examiner touches him at all. In such cases he should be blindfolded during the examination. The honest man is anxious to know how soon he can get to work again, while the simulator has no interest in this question. The latter is also liable to refer several times to his "own doctor." It is unnecessary to warn against paying the slightest credence to what he says in regard to the statements of other doctors. In conclusion, Klefberg reiterates the importance of diverting the attention away from the part alleged to be affected.